

URBAN/MUNICIPAL

CA30NHWL60

90 H17

HAMILTON STREET RAILWAY

1991 TRANSIT SERVICE PLAN
Options for Discussion

CA3 ON HW L60 90 H17

URBAN/MUNICIPAL

URBAN MUNICIPAL

NOV 23 1990

GOVERNMENT DOCUMENTS

THE HAMILTON STREET RAILWAY COMPANY

owned and operated by

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH

1991 TRANSIT SERVICE PLAN

OPTIONS FOR DISCUSSION

November, 1990



Digitized by the Internet Archive
in 2023 with funding from
Hamilton Public Library

<https://archive.org/details/hamiltonstreetra00unse>

TABLE OF CONTENTS

		<u>Page</u>
	EXECUTIVE SUMMARY	(i)
1.0	INTRODUCTION	1-1
2.0	ASSESSMENT OF PRESENT SERVICES	2-1
2.1	General System Trends	2-1
2.2	Route Performance Review	2-2
2.3	Customer Concerns	2-3
2.4	Financial Perspective	2-5
2.5	Comparison to Other Transit Systems	2-7
3.0	DEVELOPMENT OF SERVICE OPTIONS	3-1
3.1	Route Changes	3-1
3.2	Service Revisions	3-8
3.3	Service Standards Modifications	3-8
3.4	Fare Plan Options	3-10
4.0	PROPOSED 1991 TRANSIT SERVICE PLAN	4-1
4.1	1991 Service Changes	4-1
4.2	1991 Fare Structure Modifications	4-2
4.3	Financial Implications of the Plan	4-4
APPENDICES		
	Appendix A - Route Ridership Data	
	Appendix B - Customer Opinion Survey	

List of Tables

		<u>Follows Page</u>
Table E.1	Proposed 1991 Services Changes	(ii)
Table E.2	Proposed 1991 Fare Plan	(ii)
Table 2.1	H.S.R. Operating Trends	2-1
Table 2.2	1990 Route Ridership Estimates	2-2
Table 2.3	1990 vs. 1989 Route Ridership Estimates	2-2
Table 2.4	Route Revenue/Cost Performance	2-2
Table 2.5	Overview of Services with Low Performance	2-3
Table 2.6	Trends in Customer Contacts	2-4
Table 2.7	Financial Overview of H.S.R.	2-5
Table 2.8	Analysis of Fare Concessions	2-6
Table 2.9	Allocation of 1990 Transit Costs by Time Period	2-7
Table 2.10	Overview of Comparison Transit Systems	2-7
Table 2.11	Hours of Service Comparison	2-8
Table 2.12	Average Service Frequency Comparison	2-8
Table 2.13	1990 Fare Level Comparison	2-8
Table 3.1	Summary of Selected Schedule Changes	3-8
Table 3.2	Summary of Service Standard Options	3-9
Table 3.3	1991 Fare Plan Options	3-11
Table 4.1	Priorities for Service Changes	4-1
Table 4.2	Summary of Comparison of Fare Plan Options	4-2

List of Figures

Figure 2.1	H.S.R. Ridership Trends	2-1
Figure 2.2	Overview of 1990 Customer Contacts	2-3
Figure 3.1	Bayfront/Nash/Fennell/Burlington Route Changes	3-1
Figure 3.2	Delaware/Parkdale/Stoney Creek Local/Beeline Route Changes	3-2

EXECUTIVE SUMMARY

The 1991 Transit Service Plan has been developed to guide the preparation of the final 1991 budget for H.S.R. A proposed program of service changes and fare structure modifications has been developed which will enable the financial performance of H.S.R. to be improved while minimizing the impacts on transit users as much as possible.

As a basis for developing the 1991 plan, a detailed assessment of the adequacy of current service was carried out. Some of the main findings of this assessment are as follows:

- On a system-wide basis, H.S.R.'s financial performance has been declining for several years. While ridership levels have been slowly declining, the amount of service has been held fairly constant and costs have been steadily increasing.
- The performance of specific H.S.R. services varies significantly across the system. Routes with very low performance include several suburban routes and the Sherman/Ottawa, Burlington, Limeridge, Aberdeen and Parkdale routes. Also, early morning and evening time periods as well as Sunday and Holiday services were also found to exhibit poor performance.
- H.S.R. monitors customer concerns and preferences very closely. In 1990 the feedback from customers indicated strongly that transit users are primarily concerned with qualitative aspects of the service such as cleanliness of buses and bus stops, courtesy of H.S.R. staff and availability of tickets and passes. Transit users did not indicate that increases in service was a major priority or that fare levels are very important.
- From a financial perspective the local transit levy on City taxpayers is \$15.8 million in 1990. One of the main contributors to this levy is the extent of the fare concessions provided to specific H.S.R. users (i.e. students, seniors and

children). In 1990 the equivalent value of fare concessions on H.S.R. services is about \$8.8 million. Also, transfer payments to other local government agencies contribute an additional \$1.1 million to the local transit levy. An assessment of the service contribution to the transit levy indicated that about \$2.6 million of the levy is a direct result of evening and weekend services.

- A comparison of H.S.R. service and fare levels with four other municipalities was conducted. This comparison indicated that service standards were generally equivalent or somewhat better than in other systems. Concession fares and monthly pass prices were lower in Hamilton than in the comparison systems.

Based on the assessment of existing services, a range of options for service changes was developed and assessed. These options included route changes, schedule refinements and service standards modifications. Through this investigation, a proposed program of service changes for 1991 was developed, as outlined in Table E.1. On an annual basis, this program is estimated to impact approximately 450,000 passenger trips while reducing H.S.R. costs by \$2.5 million. The annual impact on the transit levy would be a net reduction of about \$1.6 million.

A proposed fare plan has been developed for 1991 as outlined in Table E.2. This fare plan would increase transit revenues about 5% in 1991 which is roughly equivalent to current inflation levels. Also, the plan reduces the number of different fare categories which will improve H.S.R.'s capability to monitor proper payment of fares (i.e. "fare is fair" concept) and it brings the child category up to the same level as students and seniors.

<u>Service Change</u>	<u>Annual Passenger Trips Impacted</u>	<u>Change in Annual Costs (1991 Dollars)</u>
i) Selected Schedule Refinements (King, Barton, Cannon, Locke, York and other routes)	8,000	-\$124,000
ii) Sunday & Holiday Frequency Service Standard Modified to 30 and 60 Minute Headways	1,000	-\$82,000
iii) Sunday & Holiday Hours Service Standard Modified to 8:00 a.m. to Midnight	94,000	-\$365,000
iv) Bayfront/Nash, Fennell/Sherman- Ottawa/Burlington Route Changes	122,000	-\$614,000
v) Delaware/Parkdale/Stoney Creek Local/Beeline Route Changes	109,000	-\$827,000
vi) Garth/Upper James Route Changes	70,000	-\$174, 000
vii) Aberdeen Route Change	<u>52,000</u>	<u>-\$266,000</u>
Total	<u>456,000</u>	<u>-\$2,452,000</u>

TABLE E.1 PROPOSED 1991 SERVICE CHANGES

		<u>Proposed</u>	<u>(Current)</u>
ADULTS	- Cash Fare	\$1.25	(\$1.15)
	- Tickets	\$1.25	(\$1.15)
	- Monthly Pass	\$48.00	(\$43.50)
STUDENTS/SPECIAL ADULTS	- Cash Fare	\$1.25	(\$1.15)
	- Tickets	\$0.75	(\$0.75)
	- Monthly Pass	\$34.00	(\$30.50)
CHILDREN	- Cash Fare	\$1.25	(\$0.50)
	- Tickets	\$0.75	(\$0.50)
	- Monthly Pass	\$34.00	(n/a)
SENIOR CITIZENS	- Cash Fare	\$1.25	(\$1.15)
	- Tickets	\$0.75	(\$0.75)
	- Monthly Pass	\$34.00	(\$30.50)
	- Annual Convenience Pass	\$150.00	(\$25.00 + \$0.25)
	- Annual Over 70's Pass	\$35.00	(\$31.00)
UNIVERSITY/COLLEGE SEMESTER PASS		\$155.00	(\$147.00)

TABLE E.2 PROPOSED 1991 FARE PLAN

The purpose of this report is to present a proposed program of service and fare changes for the Hamilton Street Railway (H.S.R.) in 1991. This program has been developed through a planning study conducted in-house by H.S.R. staff during the past several months. In developing this program, a number of considerations were recognized as follows:

- There is a need to maintain and improve the financial performance and service efficiency of the H.S.R.
- Services should continue to be designed to meet customer needs as far as possible.
- Changes should be implemented in an incremental manner which will minimize disruption and inconvenience for regular transit users.

It is intended that this program, when approved, will provide a basis for bringing forward a detailed budget for 1991.

In developing the 1991 Transit Service Plan, a detailed assessment of existing services was carried out. This assessment considered overall H.S.R. trends, route performance, customer concerns and a comparison of service policies with several other transit systems. This assessment is outlined in Section 2.0 of the report. A range of service and fare options have been developed for consideration, including route changes, schedule changes, service standards adjustments and fare structure modifications. Section 3.0 describes each of these options, together with an indication of ridership and cost impacts. The recommended program of service and fare changes for 1991 is presented in Section 4.0.

2.0 ASSESSMENT OF PRESENT SERVICES

An important input to the 1991 Transit Service Plan is an assessment of the performance of existing H.S.R. services. This section provides an overview of present services in terms of general system trends, route performance, customer concerns and financial requirements. Also a brief comparison of service standards and fare levels with other similar sized transit systems is provided.

2.1 General System Trends

Over the last five years the demand for H.S.R. services has been declining. As indicated in Figure 2.1, ridership levels have been decreasing since 1984 with the most significant ridership losses occurring in 1985 and 1988. Over this period of time, the average rate of ridership decline is about 400,000 trips per year. This rate of decline is expected to continue through 1991. A recent study by the Canadian Urban Transit Association examined the effects of demographic changes on transit ridership in Canadian cities. This study found that the 15-24 year old age group, which has the highest rate of transit use, has been declining in size relative to the overall population. These demographic changes have contributed to declining ridership in many other cities. In Hamilton, these demographic changes, combined with relatively low growth rates, are a major contributing factor to the ridership decline in recent years.

An overview of H.S.R. operating trends since 1986 is provided in Table 2.1. Some of the main points to be noted in these data are as follows:

- The amount of service provided by H.S.R., in terms of miles operated, has remained almost constant since 1986.
- The cost of supplying service, in terms of expenses per mile, has increased by about 17% over the same period. This is largely attributable to increased costs of fuel and labour.
- Total H.S.R. expenses have increased by about 25% while the net costs of the service, funded through Provincial and Municipal subsidies, have increased by about 30% since 1986.

Overall, the trends indicate that declining financial performance of the H.S.R. can be directly related to increasing unit costs of supplying services and declining ridership. Potential strategies to improve financial performance of the H.S.R. include refinements in services to better match ridership needs and improving the revenue performance of the system.

2.2 Route Performance Review

On an ongoing basis, H.S.R. monitors the actual ridership, revenue and operating costs of each individual route. A detailed estimate of 1990 route ridership is provided in Table 2.2. Some of the main points to be noted from this table are:

- Five routes (i.e. Barton, King, Delaware, Upper Wentworth/Wellington, Upper James) carry over 50% of the H.S.R. ridership.
- About 85% of H.S.R. ridership is carried on weekdays, with about 10% on Saturdays and 5% on Sundays.
- The most lightly used routes are special services (i.e. Rock Gardens, Confederation Park) and routes serving low density outlying areas (i.e. Dundas Local, Ancaster, Stoney Creek Local). The Sherman/Ottawa route is also a lightly utilized route.

A comparison of 1990 and 1989 route ridership is provided in Table 2.3. This table compares ridership in the first six months of 1990 with the same period in the previous year. While overall ridership is declining, the change in ridership varies considerably between routes. The routes with the greatest ridership declines are generally the routes in the older developed areas of the city (i.e. Delaware, Barton, Aberdeen, Bayfront, Cannon, Locke and Sherman/Ottawa). Ridership growth has occurred on a number of routes, particularly on the King route, several mountain routes (i.e. Upper Wentworth/Wellington, Upper Gage, Upper Sherman, Upper Paradise, Garth and College) and the Stoney Creek Central route. These routes generally are serving areas which are experiencing new development and population growth.

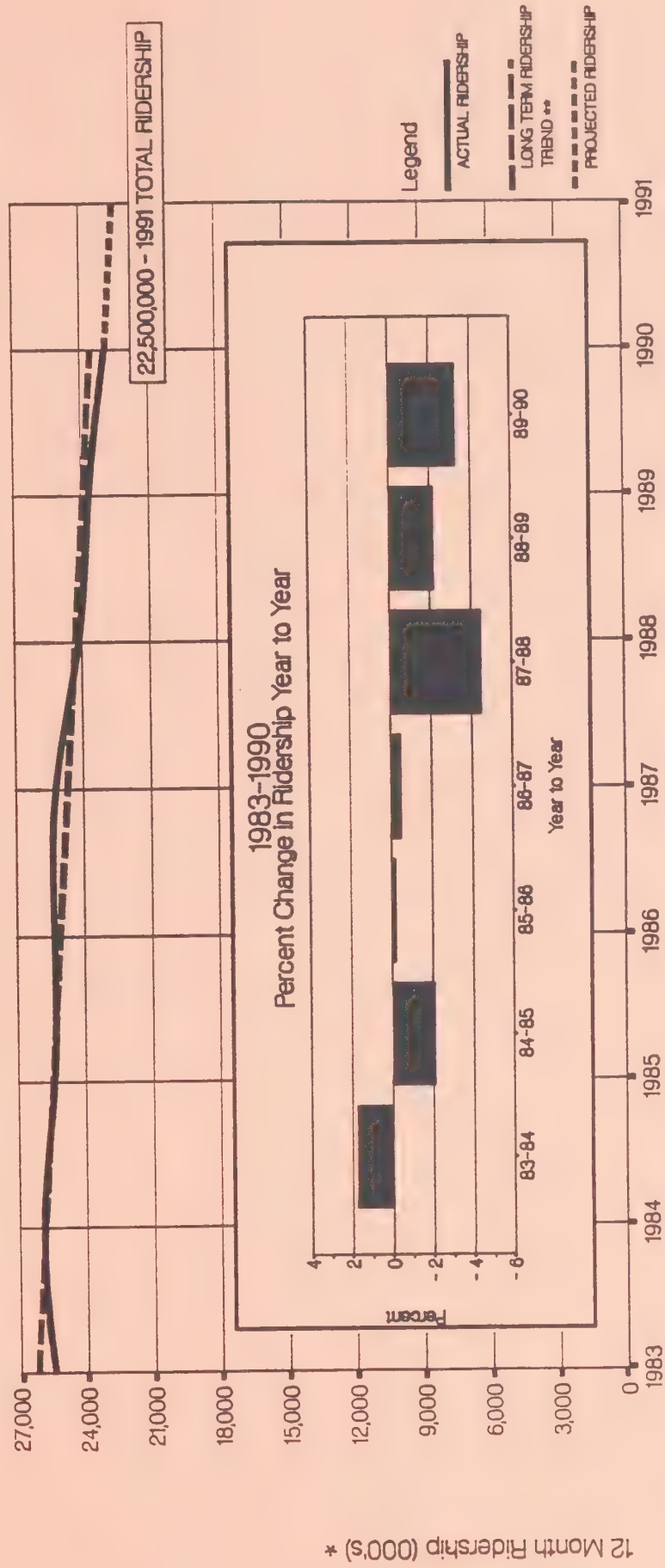
An analysis of Revenue to Cost performance of each route for the first five months of 1990 is shown in Table 2.4. The routes with particularly low performance tend to be the routes serving outlying, low density areas (i.e. Ancaster, Dundas Local, Stoney Creek Local) and city routes not connecting

	1990	APC DERIVED			TOTAL ANNUAL RIDERSHIP *			AVERAGE RIDERSHIP		
Route Name	Forecast Rev. Pass.	% WKDY OF TOT.	% SAT. OF TOT.	% SUN. OF TOT.	WEEKDAYS	SATURDAYS	SUNDAYS	WEEKDAY	SATURDAY	SUNDAY
1 - KING	3,398,212	80.60%	12.61%	6.79%	2,738,959	428,515	230,739	10,869	8,241	3,783
2 - BARTON	3,450,923	80.65%	12.55%	6.80%	2,783,169	433,091	234,663	11,044	8,329	3,847
3 - CANNON	570,134	85.45%	11.53%	3.02%	487,180	65,736	17,218	1,933	1,264	282
4 - BAYFRONT	694,032	89.79%	6.73%	3.48%	623,171	46,708	24,152	2,473	898	396
5 - DELAWARE	3,248,061	82.73%	11.21%	6.06%	2,687,121	364,108	196,832	10,663	7,002	3,227
6 - ABERDEEN	262,375	78.33%	16.83%	4.84%	205,518	44,158	12,699	816	849	208
7 - LOCKE	243,123	81.61%	13.11%	5.27%	198,413	31,873	12,813	787	613	210
8 - YORK	242,181	81.61%	13.11%	5.27%	197,644	31,750	12,763	784	611	209
9 - ROCK GARDENS	4,283			100.00%			4,283			70
10 - BEELINE	488,837	100.00%			488,837			1,940		
11 - PARKDALE	605,512	87.34%	8.94%	3.72%	528,854	54,133	22,525	2,099	1,041	369
15 - SHERMAN/OTTAWA	52,400	100.00%			52,400			208		
16 - ANCASTER	23,841	100.00%			23,841			95		
21 - UP. KENILWORTH	563,513	86.45%	8.99%	4.56%	487,157	50,660	25,696	1,933	974	421
22 - UP. OTTAWA	693,860	86.18%	9.32%	4.51%	597,969	64,668	31,293	2,373	1,244	513
23 - UP. GAGE	929,182	85.28%	9.85%	4.87%	792,406	91,524	45,251	3,144	1,760	742
24 - UP. SHERMAN	727,266	86.61%	9.31%	4.08%	629,885	67,708	29,745	2,500	1,302	488
25 - UP. WENT./WELL	1,328,561	85.79%	11.39%	2.81%	1,139,772	151,323	37,333	4,523	2,910	612
27 - UP. JAMES	1,062,394	83.62%	11.88%	4.50%	888,374	126,212	47,808	3,525	2,427	784
31 - BENNELL	938,570	87.47%	9.01%	3.51%	820,967	84,565	32,944	3,258	1,626	540
32 - GARTH	230,978	100.00%			230,978			917		
33 - SANCTUARY	402,734	82.51%	10.39%	7.09%	332,296	41,844	28,554	1,319	805	468
34 - UP. PARADISE	471,338	87.85%	9.83%	2.32%	414,070	46,333	10,935	1,643	891	179
35 - COLLEGE	213,107	94.55%	3.74%	1.71%	201,493	7,970	3,644	800	153	60
41 - MOHRK	512,783	88.57%	7.87%	3.56%	454,172	40,356	18,255	1,802	776	299
45 - LIMERIDGE	200,750	87.44%	12.56%		175,536	25,214		697	485	
51 - UNIVERSITY	427,297	100.00%			427,297			1,696		
52 - DUNDAS LOCAL	18,858	100.00%			18,858			75		
53 - HURLINGTON	189,055	92.49%	4.24%	3.27%	174,857	8,016	6,182	694	154	101
55 - ST. CRK. CENT.	484,179	88.29%	11.71%		427,482	56,697		1,696	1,090	
56 - CONFD. BK.	15,213									
57 - NASH	382,655	91.59%	5.94%	2.47%	350,474	22,730	9,452	1,391	437	155
58 - ST. CRK. LOCAL	79,733	83.78%	16.22%		66,800	12,933		265	249	
FRANCES AVENUE	966	100.00%			966			4		
TOTAL	23,156,906	84.84%	10.36%	4.73%	19,646,916	2,398,825	1,095,778	77,966	46,131	17,963

* Ridership does not include over 70's pass users.

TABLE 2.2 1990 ROUTE RIDERSHIP ESTIMATES

**Figure 2.1
H.S.R. Ridership Trends**



Years

* Ridership does not include Over 70's Pass and misc. trips.
 ** Average ridership decline (Dec 83-Sep 90) - 400,000 per year

	<u>1990</u> <u>(Budget)</u>	<u>1989</u>	<u>1988</u>	<u>1987</u>	<u>1986</u>
Population Served (,000)	400	399	399	394	386
Miles Operated (,000)	9,288	9,167	9,159	9,023	9,075
Expenses (,000)	\$50,912	\$48,306	\$44,240	\$42,308	\$40,566
Transportation Revenue (,000)	\$23,522	\$22,207	\$21,213	\$20,657	\$19,484
Net Cost of Service (,000)	\$27,390	\$26,099	\$23,027	\$21,651	\$21,082
Total Bus Fleet	274	274	286	276	262
Revenue/Cost Ratio (%)	46.2%	46.0%	47.9%	48.8%	48.0%
Revenue/Mile	\$2.53	\$2.42	\$2.31	\$2.29	\$2.15
Expenses/Mile	\$5.22	\$5.27	\$4.83	\$4.68	\$4.47

TABLE 2.1 H.S.R. OPERATING TRENDS

Route Name	1989 PASSENGER TRIPS	1989 PASSENGER BOARDINGS	JUNE 1989 PASS. TRIPS YR. TO DATE	JUNE 1989 PASS. BOARD YR. TO DATE	JUNE 1990 PASS. TRIPS YR. TO DATE	JUNE 1990 PASS. BOARD YR. TO DATE	% DIFF. JUNE 1990 VS. JUNE 89	1990 FORECAST TRIPS	1990 FORECAST ADJUSTED
Aberdeen	303,981	390,572	164,384	210,093	143,371	185,568	-11.7%	265,123	262,375
Anc. Local	7,081	10,679	7,081	10,679	0	0	0.0%	0	0
Ancaster	25,220	36,524	12,712	19,332	12,143	17,260	-10.7%	24,091	23,841
Barton	3,612,680	4,513,816	1,854,123	2,318,483	1,789,661	2,224,028	-4.1%	3,487,079	3,450,923
Bayfront	727,179	979,353	380,178	512,014	366,650	493,987	-3.5%	701,304	694,032
Beeline	528,037	685,860	277,406	364,679	259,503	342,147	-6.2%	493,959	488,837
Burlington	201,110	324,278	99,375	163,010	94,397	149,388	-8.4%	191,036	189,055
Cannon	594,965	740,592	316,066	391,846	306,048	374,031	-4.5%	576,107	570,134
College	203,750	273,051	103,035	137,577	108,896	146,278	6.3%	215,340	213,107
Confed. Pk.	16,388	27,598	2,857	4,732	2,680	4,161	-12.1%	15,373	15,213
Delaware	3,416,931	4,219,807	1,765,106	2,183,785	1,695,451	2,104,839	-3.6%	3,282,091	3,248,061
Dundas Local	17,888	23,830	10,527	13,837	11,214	14,591	5.4%	19,055	18,858
Pennell	978,146	1,383,562	496,884	699,377	481,775	684,137	-2.2%	948,403	938,570
Garth	219,382	280,785	108,717	139,498	115,663	147,217	5.5%	233,398	230,978
King	3,319,574	4,190,731	1,681,329	2,118,108	1,739,191	2,180,342	2.9%	3,433,815	3,398,212
Limeridge	202,793	258,753	101,275	130,138	101,305	129,878	-0.2%	202,853	200,750
Locke	264,181	364,957	138,923	193,087	129,189	177,654	-8.0%	245,670	243,123
Mohawk	527,948	683,817	270,911	351,224	265,886	344,585	-1.9%	518,155	512,783
Nash	395,504	603,415	205,501	314,052	200,908	305,644	-2.7%	386,664	382,655
Paradale	622,881	998,307	324,222	517,579	318,483	515,064	-0.5%	611,855	605,512
Rock Gardens	3,646	5,797	1,150	1,808	1,365	1,950	7.9%	4,328	4,283
Sanatorium	411,363	522,318	211,959	271,105	209,687	280,824	-3.8%	406,954	402,734
Shenman/Ottawa	63,623	92,236	33,535	48,626	27,909	41,975	-13.7%	52,949	52,400
St. Oak. Cent.	422,311	623,633	207,991	307,977	240,980	349,510	13.5%	489,252	484,179
St. Oak. Fran.	475	793	0	0	966	1,249	0.0%	0	966
St. Oak. Loc.	96,429	124,855	50,255	64,957	41,989	57,296	-11.8%	80,568	79,733
University	444,105	566,357	232,407	296,451	225,954	283,848	-4.3%	431,774	427,297
Up. Gage	892,767	1,117,353	448,142	561,135	471,308	587,798	4.8%	938,917	929,182
Up. James	1,140,473	1,451,097	588,650	752,805	554,085	707,447	-6.0%	1,073,525	1,062,394
Up. Kent	585,499	713,051	298,176	363,639	289,986	353,583	-2.8%	569,417	563,513
Up. Ottawa	705,818	894,878	363,187	458,047	360,264	457,189	-0.2%	701,129	693,860
Up. Paradise	465,244	595,737	234,511	301,662	240,072	303,316	0.5%	476,276	471,338
Up. Shenman	703,549	898,664	355,603	457,657	371,442	465,968	1.8%	734,886	727,266
Up. Went/Well	1,276,413	1,657,757	624,995	814,342	657,345	839,689	3.1%	1,342,481	1,328,561
York	238,380	340,927	122,221	175,249	125,471	179,576	2.5%	244,719	242,181
TOTALS	23,636,714	30,605,740	12,093,394	15,668,590	11,961,227	15,432,017	-1.5%	23,398,549	23,156,909

NOTES:

Passenger trips do not include Over 70's pass users.

TABLE 2.3 1990 VS. 1989 ROUTE RIDERSHIP ESTIMATES

<u>ROUTES</u>	<u>YTD REVENUE</u>	<u>YTD COST</u>	<u>YTD REV/COST RATIO</u>
King	\$1,432,439	\$1,717,042	83.42%
Barton	1,528,595	2,107,550	72.53%
University	205,363	296,888	69.17%
Upper Gage	394,642	759,601	51.95%
Upper Went/Well	545,885	1,068,815	51.07%
Upper James	458,077	946,533	48.40%
Dun/Del/WH/MW	1,443,425	3,047,603	47.36%
Beeline Express	216,206	458,159	47.19%
Cannon	256,468	543,965	47.15%
York	102,193	228,439	44.74%
Upper Paradise	198,670	447,901	44.36%
Upper Ottawa	301,173	684,010	44.03%
Upper Sherman	307,831	702,108	43.84%
Garth	98,644	230,206	42.85%
Nash	158,089	375,213	42.13%
S.C. Central	201,682	493,539	40.86%
Upper Kenilworth	242,964	610,465	39.80%
College	94,415	239,590	39.41%
Rock Gardens	707	1,817	38.94%
Locke	107,676	289,308	37.22%
Mohawk	215,959	589,928	36.61%
Bayfront	309,557	895,434	34.57%
Sanatorium	177,038	515,213	34.36%
Fennell	397,916	1,256,447	31.67%
Parkdale	250,977	845,026	29.70%
Aberdeen	117,912	409,483	28.80%
S.C. Local	33,614	139,053	24.17%
Limeridge	82,920	344,770	24.05%
Dundas Local	8,899	42,884	20.75%
Burlington	79,460	458,554	17.33%
Ottawa/Sherman	23,805	146,127	16.29%
Ancaster Spine	10,863	80,332	13.52%
S.C. Frances Ave.	999	17,307	5.77%
Confederation Park	0	641	0.00%
Grand Total	<u>\$10,005,063</u>	<u>\$20,989,953</u>	<u>47.67%</u>

TABLE 2.4 ROUTE REVENUE/COST PERFORMANCE

directly to the downtown area (i.e. Sherman/Ottawa, Burlington, Limeridge, Parkdale and Fennell). The Aberdeen route also has relatively poor performance. The highest revenue to cost performance is exhibited by the main east-west corridor routes (i.e. King, Barton, University) and the central mountain routes (i.e. Upper Gage, Upper Wentworth/Wellington, Upper James).

A detailed estimate of route ridership by each time period is provided in Appendix A together with the estimated passenger boardings per revenue hour for each route-time period. Passenger boardings per revenue hour is an excellent indicator of service performance as operating costs are closely related to revenue hours. Table 2.5 provides a summary of the route-time periods with particularly poor performance. A review of this table indicates that the route service performance is generally lowest during early morning (i.e. before 6:30 a.m.) and evening (i.e. after 6:30 p.m.) time periods. Also, the performance is generally lower on Saturdays and Sundays as compared to weekdays.

2.3 Customer Concerns

H.S.R. keeps a record of and regularly reviews all customer contacts to help assess how well the public is being served. As of the end of September, over 900 customer contacts had been recorded for 1990. An overview of the nature of these contacts is provided in Figure 2.2. Customer contacts were classified as complaints (74%), requests for specific changes (19%) and compliments (7%). The most common topic of customer contact dealt with employee conduct, both for complaints and compliments. Specific employee concerns most commonly noted were lack of courtesy, driving performance and passing bus areas without stopping. While the number of requests for service is relatively low (19%), some specific areas can be noted as follows:

- Improved service was requested most often on the Parkdale route.
- Improved or additional bus stops were requested most often on the Upper Wentworth/Wellington route.

**Weekday Services With Less Than
15 Passenger Boardings per Revenue Hour**

Aberdeen - Evening
Sherman/Ottawa - A.M. Peak
Ancaster - A.M. Peak
Upper James - Early Morning
Garth - Early Morning
Sanatorium - Early Morning, Evening
Upper Paradise - Early Morning
College - Evening
Mohawk - Evening
Limeridge - Early Morning, Evening
Dundas Local - A.M. Peak, P.M. Peak
Burlington - Early Morning

**Saturday Services with Less Than
10 Passenger Boardings Per Revenue Hour**

Parkdale - Evening
Upper Kenilworth - Early Morning
Upper Wentworth/Wellington - Early Morning
College - Evening
Mohawk - Evening
Limeridge - Early Morning, A.M. Peak
Burlington - Early Morning
Stoney Creek Central - Early Morning
Stoney Creek Local - A.M. Peak

**Sunday Service With Less Than
8 Passenger Boardings Per Revenue Hour**

Bayfront - A.M. Peak
Delaware - Early Morning
Aberdeen - Early Morning, Evening
Parkdale - Early Morning
Upper Ottawa - Early Morning
Upper Sherman - Early Morning
Upper Wentworth/Wellington - Early Morning
Fennell - A.M. Peak
Burlington - Early Morning, A.M. Peak

TABLE 2.5 OVERVIEW OF SERVICES WITH LOW PERFORMANCE

CUSTOMER CONTACTS

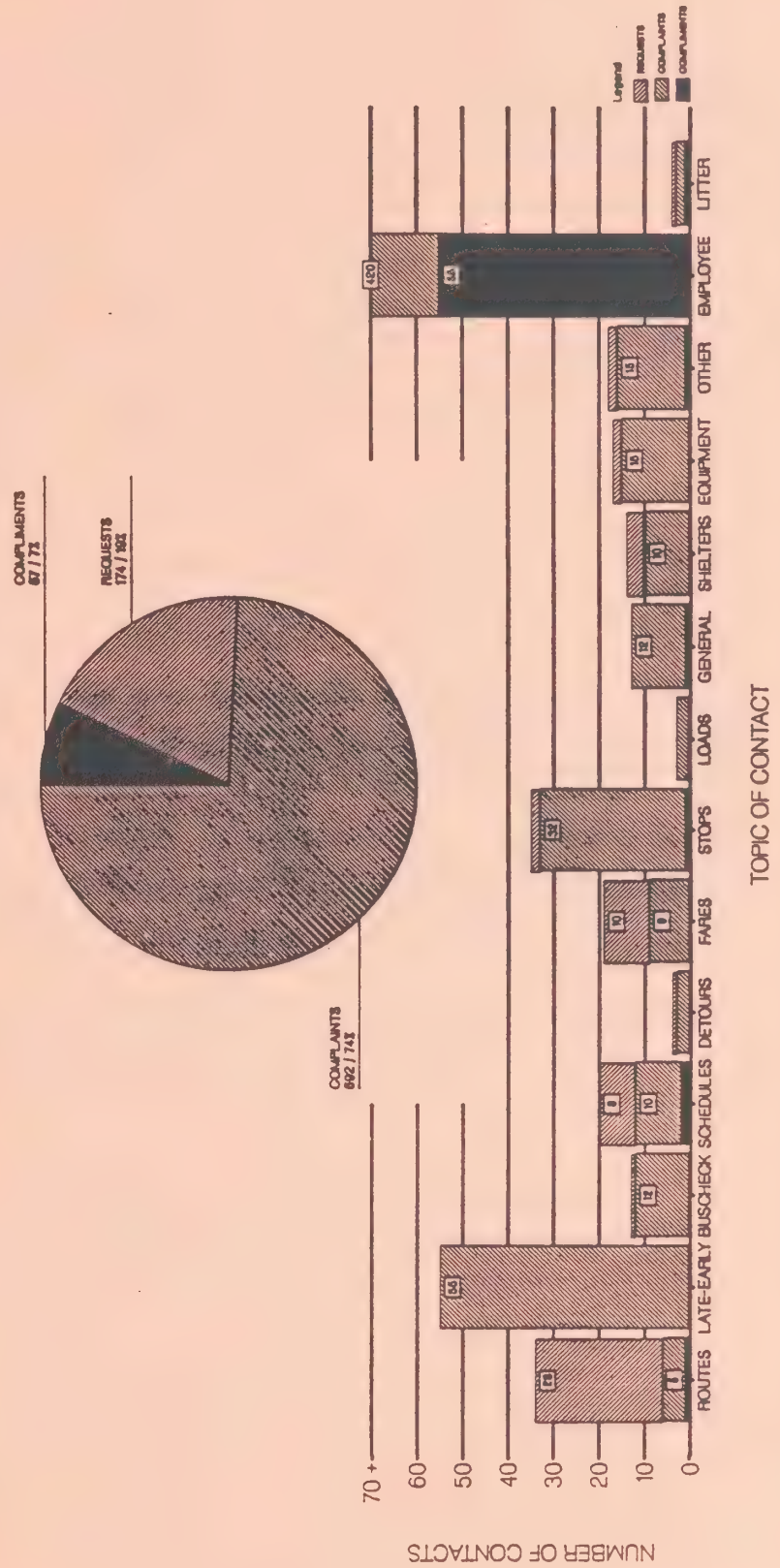


FIGURE 2.2 OVERVIEW OF 1990 CUSTOMER CONTACTS

- The Delaware route had most of the compliments while the King route had most of the complaints. It should be noted, however, that these routes both have relatively high ridership.

The general trends in customer contacts are shown in Table 2.6 below.

	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u> <u>(Projected)</u>
Compliment	9	61	22	70
Complaint	300	718	560	807
Request	<u>172</u>	<u>223</u>	<u>256</u>	<u>172</u>
Total	481	1,102	838	1,049

Table 2.6 Trends in Customer Contacts

Overall it would appear that the number of compliments and complaints are rising while the number of requests has decreased in 1990.

To supplement, H.S.R.'s records of customer contacts, a brief public opinion survey was conducted in September-October of 1990 to identify any major service concerns. Four hundred persons were contacted by telephone and interviewed. Appendix B contains the survey questionnaire that was utilized and a tabulation of the responses to each question. The results of the survey can be summarized as follows:

- The persons surveyed were well distributed throughout the H.S.R. service area and over 90% of those surveyed could be considered regular H.S.R. users (i.e. they made at least 4 trips per week).
- The main aspects of H.S.R. services which respondents said should be improved were (in order of priority):
 - number of litter containers in bus areas
 - cleanliness of buses
 - number of benches at bus areas
 - availability of tickets and passes
 - number of shelters

- About 90% of the respondents indicated that fares were not an important factor when deciding to use the bus. None of the respondents (i.e. 0 out of 400) indicated that fares were a very important factor related to using the bus.

The information utilized to assess H.S.R. services from the customer perspective has been somewhat limited due to the availability of time and resources. However, there does seem to be a fairly common theme. Customers are primarily concerned with the qualitative aspects of the service such as cleanliness of buses and bus areas, comfort of stops in terms of benches and shelters and the courtesy and attentiveness of H.S.R. employees. The amount of service provided and the fares charged do not appear to be major concerns of H.S.R. customers in 1990.

2.4 Financial Perspective

In assessing the current H.S.R. service and determining the requirements for changes in 1991, it is helpful to review the financial aspects of the system. A summary of the 1990 budget revenue and expenditure for H.S.R. is provided in Table 2.7. The total expenditures of \$50.9 million in 1990 are required to provide the planned level of service for this year. A more detailed analysis has been conducted to determine the nature of the relationship between these expenditures and the services supplied. This analysis indicated the following:

- About 60% of the costs (\$30.4 million) vary directly with the amount of service provided. Variable cost items include drivers wages, fuel, vehicle maintenance.
- About 19% of the costs (\$9.4 million) vary indirectly with the amount of service provided. Indirect variable cost items include trolley overhead maintenance, purchasing and stores, building and grounds maintenance, etc.
- About 21% of the costs (\$11.0 million) are largely fixed each year. Fixed cost items include capital repayment, taxes, management, service planning, customer services, etc.

EXPENDITURES (1990 BUDGET):

Support Services	\$3.73 million
Engineering & Maintenance	\$20.70 million
Operations	\$25.43 million
Transportation Services	\$3.35 million
(Less Recoveries)	<u>\$(2.30) million</u>
Total Expenditures	\$50.91 million

REVENUES (1990 BUDGET):

Fares & Other Transit Revenues	\$23.52 million
MTO Grants & Subsidies	\$9.69 million
General Support Grant (Region)	\$0.59 million
Suburban Municipalities Levy	\$1.35 million
City of Hamilton Levy	<u>\$15.76 million</u>
Total Revenues	\$50.91 million

TABLE 2.7 FINANCIAL OVERVIEW OF H.S.R.

The significance of this cost breakdown is that changes in service do not change overall expenditures in direct proportion. For example, minor reductions in evening service will enable only variable costs to be reduced in the short run (e.g. 1 year). However, with more extensive reductions over a longer period of time (e.g. 5 years), it would be possible to also reduce semi-variable and fixed costs.

As indicated in Table 2.7 the net cost of transit services to the City of Hamilton will be about \$15.8 million in 1990. One of the major factors contributing to this cost to the municipal taxpayers is the fare concessions provided to different groups of H.S.R. customers. These concessions, which have been made for social service, educational assistance and various other reasons, enable certain groups to use H.S.R. services at significantly reduced prices (as compared to the basic adult cash fare). An analysis of the value of the fare concessions is provided in Table 2.8. In summary, the equivalent value of fare concessions in 1990 is estimated to be about \$8.82 million. This amount is distributed over the various transit users (except persons paying the full adult fare) with senior citizens being the primary beneficiaries of concession fares.

There are also a number of H.S.R. budget expenditure items which are basically transfer payments between local governments and do not contribute to the amount of service provided. These costs are as follows, for 1990:

- Business and realty tax payments to municipalities
(less Provincial subsidy) \$866,000
- Cost allocations from municipalities for litter
removal (less Provincial subsidy) \$76,000
- Cost allocations from municipalities for snow
and ice clearing (less Provincial subsidy) \$126,000

<u>Customer Group</u>	<u>Estimated 1990 Trips (millions)</u>	<u>Estimated 1990 Fare Revenue (millions)</u>	<u>Revenue at \$1.15 Per Trip (millions)</u>	<u>Value of Fare Concession (millions)</u>	<u>Percent of Total Value</u>
Adults	14.98	\$16.06	\$17.23	\$1.17	13%
Secondary School Students & Special Adults	5.60	\$3.69	\$6.44	\$2.75	31%
Children	1.19	\$0.60	\$1.37	\$0.77	9%
Senior Citizens & "Over 70's" Group	3.93	\$0.61	\$4.52	\$3.92	44%
University/College Semester Pass Users	0.50	\$0.37	\$0.58	\$0.21	2%
Total	26.21	\$21.32	\$30.14	\$8.82	100%

TABLE 2.8 ANALYSIS OF FARE CONCESSIONS

In summary, fare concessions and local government transfer payments amount to about \$10 million in 1990 or about 63% of the \$15.8 million City levy for the H.S.R. This portion of the municipal transit levy is directly related to non-transit purposes (e.g. social or educational fare concessions) or to costs beyond H.S.R.'s control (e.g. municipal taxes and cost allocations).

In assessing the net costs of H.S.R. services, it is also useful to look at how these costs are allocated by time period. Table 2.9 provides an overview of 1990 costs and revenues allocated to weekday service, evening service, Saturday service and Sunday and Holiday service. This allocation assumes that all semi-variable and fixed costs (e.g. bus capital payments, buildings and grounds, planning, marketing, management) are allocated to weekday service and that only variable costs (i.e. strictly marginal costs) are assigned to evenings and weekends. This is a realistic assumption since the transit system's main function is to accommodate weekday travel demands. On the basis of this allocation, it can be seen that about 84% (i.e. \$13.2 million) of the net cost of public transit to the City of Hamilton is attributable to weekday service. The remaining 16% or \$2.6 million of the net costs are related to evening and weekend services. These services are operated primarily to provide mobility for individuals without access to an automobile and can be considered to be a form of social service.

2.5 Comparison To Other Transit Systems

In assessing transit services and policies it is useful to compare services and policies to other similar sized cities and identify any major differences. It should be recognized that differences will exist between specific cities as a result of local conditions and policy preferences. However, comparisons to other cities help to highlight areas which should be reviewed.

For the purpose of this comparison, four other similar sized cities (i.e. Kitchener, Ottawa, London, Mississauga) have been utilized. A general comparison of these transit systems is provided in Table 2.10. The Ottawa transit system is larger than Hamilton's while the other three are smaller than H.S.R. Mississauga's transit services differ somewhat in that these services are strongly oriented to connections with TTC and GO Transit services.

	<u>Weekday Service</u>	<u>Evening Service</u>	<u>Saturday Service</u>	<u>Sunday /Holiday Service</u>
Transit Cost Allocations (millions)	\$39.8	\$4.9	\$3.6	\$2.5
Ridership (excluding Over 70's group) (millions)	17.4	2.4	2.3	1.1
Transit Revenues (millions)	\$17.2	\$2.4	\$2.2	\$1.2
MTO Grants (millions)	\$7.7	\$0.9	\$0.7	\$0.5
Net Cost to Municipalities & Region (millions)	\$14.9	\$1.6	\$0.6	\$0.8
City of Hamilton Share of Net Cost (millions)	\$13.2	\$1.4	\$0.5	\$0.7

TABLE 2.9 ALLOCATION OF 1990 TRANSIT COSTS BY TIME PERIOD

	<u>Hamilton</u>	<u>Kitchener</u>	<u>Ottawa</u>	<u>London</u>	<u>Mississauga</u>
Population Served	400,000	235,000	568,000	300,000	445,000
Ridership Level (millions)	27.0	9.3	80.0	18.2	16.6
Employees	835	271	2,116	450	517
Fleet Size	274	108	814	183	244

TABLE 2.10 OVERVIEW OF COMPARISON TRANSIT SYSTEMS

A comparison of the service hours is provided in Table 2.11. The service hours in Hamilton are generally similar to Ottawa's service hours and significantly better than the service hours provided in Kitchener and London. Although Mississauga's service hours are longer than Hamilton's, this is primarily a reflection of the orientation towards TTC services. It should be noted that Hamilton's Sunday and Holiday service hours are longer than all the other comparison systems.

A comparison of service frequencies between the different cities is provided in Table 2.12. Frequencies in peak periods tend to be based on the passenger volumes carried while the frequency of service on evenings and weekends is generally based on policy considerations. In comparing the service frequencies in Hamilton with other cities, the most notable difference is in the early morning where Hamilton's service levels are much higher. Also, on Sundays and Holidays, Hamilton's service levels are equivalent or better than the comparison cities.

Fare levels in each of the comparison cities are summarized in Table 2.13. The adult cash fares in Hamilton are generally similar to the other cities, except London and Ottawa. In the case of London, adult cash fares are slightly lower than in Hamilton but all concession fares (i.e. students, children, seniors) are higher. Ottawa's fare structure is quite different from the other cities, as follows:

- Different cash fares or passes are required for types of services. For example, Express routes require a \$2.30 cash fare or \$59.00 monthly pass while local feeder routes require a \$0.90 cash fare or \$36.00 monthly pass.
- Cash fares are the same for adults, students and children but monthly pass prices are reduced for certain groups.

	<u>Hamilton</u>	<u>Kitchener</u>	<u>Ottawa</u>	<u>London</u>	<u>Mississauga</u>
<u>Weekdays</u>					
Early Morning	12 min.	30 min.	30 min.	30 min.	15 min.
A.M. Peak	12 min.	30 min.	10 min.	20 min.	15 min.
Mid-day Base	20 min.	30 min.	15 min.	30 min.	30 min.
P.M. Peak	12 min.	30 min.	10 min.	20 min.	15 min.
Early Evening	20 min.	45 min.	15 min.	30 min.	30 min.
Late Evening	30 min.	45 min.	30 min.	30 min.	30 min.
<u>Saturday</u>					
Daytime	20 min.	30 min.	15 min.	20 min.	30 min.
Late Evening	30 min.	45 min.	30 min.	30 min.	30 min.
<u>Sunday & Holiday</u>					
Daytime	30 min.	45 min.	30 min.	60 min.	30 min.
Late Evening	30 min.	45 min.	30 min.	60 min.	30 min.

TABLE 2.12 AVERAGE SERVICE FREQUENCY COMPARISON
(TYPICAL ROUTE TO DOWNTOWN)

	<u>Hamilton</u>	<u>Kitchener</u>	<u>Ottawa</u>	<u>London</u>	<u>Mississauga</u>
<u>Weekdays</u>					
First Bus Arriving Downtown	5:30 a.m.	6:10 a.m.	5:20 a.m.	6:30 a.m.	5:00 a.m.
Last Bus Leaving Downtown	1:15 a.m.	12:00 a.m.	1:00 a.m.	12:00 a.m.	2:15 a.m.
<u>Saturdays</u>					
First Bus Arriving Downtown	6:00 a.m.	6:30 a.m.	5:40 a.m.	6:30 a.m.	5:30 a.m.
Last Bus Leaving Downtown	1:00 a.m.	12:00 a.m.	1:00 a.m.	12:00 a.m.	2:00 a.m.
<u>Sundays & Holidays</u>					
First Bus Arriving Downtown	6:00 a.m.	8:15 a.m.	6:05 a.m.	10:00 a.m.	8:10 a.m.
Last Bus Leaving Downtown	1:00 a.m.	12:00 a.m.	1:00 a.m.	11:00 p.m.	1:30 a.m.

TABLE 2.11 HOURS OF SERVICE COMPARISON

	<u>Hamilton</u>	<u>Kitchener</u>	<u>Ottawa</u>	<u>London</u>	<u>Mississauga</u>
<u>Cash Fare/Tickets</u>					
Adults	\$1.15	\$1.15	\$0.90-\$2.30	\$1.05	\$1.20/\$1.10
Students	\$1.15/\$0.75	\$0.90	\$0.90-\$2.30	\$1.05	\$1.20/\$0.95
Children	\$0.50	\$0.90	\$0.90-\$2.30	\$0.60	\$1.20/n.a.
Seniors	(i) \$0.25	\$0.90	\$0.90	(ii) \$1.05/\$0.52	\$1.20/\$1.10
<u>Monthly Passes</u>					
Adults	\$43.50	\$48	\$36-\$59	\$43	\$50
Students	\$30.50	\$37.50	\$36-\$44	n/a	\$43
Children	n/a	\$37.50	n/a	n/a	n/a
Seniors	\$30.50	\$37.50	\$17	\$42	\$50
<u>University/College Semester Passes</u>					
	\$147.00	(iv) \$136-\$160	n/a	n/a	n/a

Notes:

- (i) Hamilton has several fare options for Seniors. The Seniors Convenience Program costs \$25.00 for annual card plus \$0.25 per ride.
- (ii) London offers tickets to Seniors at \$0.525. These tickets are further subsidized by the City.
- (iii) N/A means there is not a specific fare option available.
- (iv) Kitchener offers a four month semester pass for \$160.00 and a three month semester pass for \$136.00

TABLE 2.13 1990 FARE LEVEL COMPARISON

In comparing Hamilton's fare levels with other cities, the following main differences are noted:

- Fares for children and seniors in Hamilton are significantly lower than in other cities.
- Student ticket prices are lower than student fares in other cities.
- Monthly pass prices, relative to cash fares, are lower than other cities.

3.0 DEVELOPMENT OF SERVICE OPTIONS

This section of the report presents a wide range of options which have been considered in developing a proposed Transit Service Plan for 1991. The intent is to identify and assess all relevant options in order to enable the Region to adopt a program for 1991 which best meets its transportation needs and financial capabilities.

The assessment of existing H.S.R. services, as outlined in the previous section, has provided the main basis for the identification of potential service options. Specifically, service revision proposals have been developed for all routes with revenue to cost performance below 30%. Also, service modification options have been developed for time periods such as late evening and Sundays when ridership levels are very low. The comparison of H.S.R. service standards to other cities has helped to identify potential areas where adjustments could be considered to the service frequency and hours. For each potential service option, an analysis has been carried out to determine the number of passenger trips which might be affected by the change. Also, the change in annual costs and revenues to the H.S.R. have been estimated. A summary of this analysis is provided for each potential service option.

3.1 Route Changes

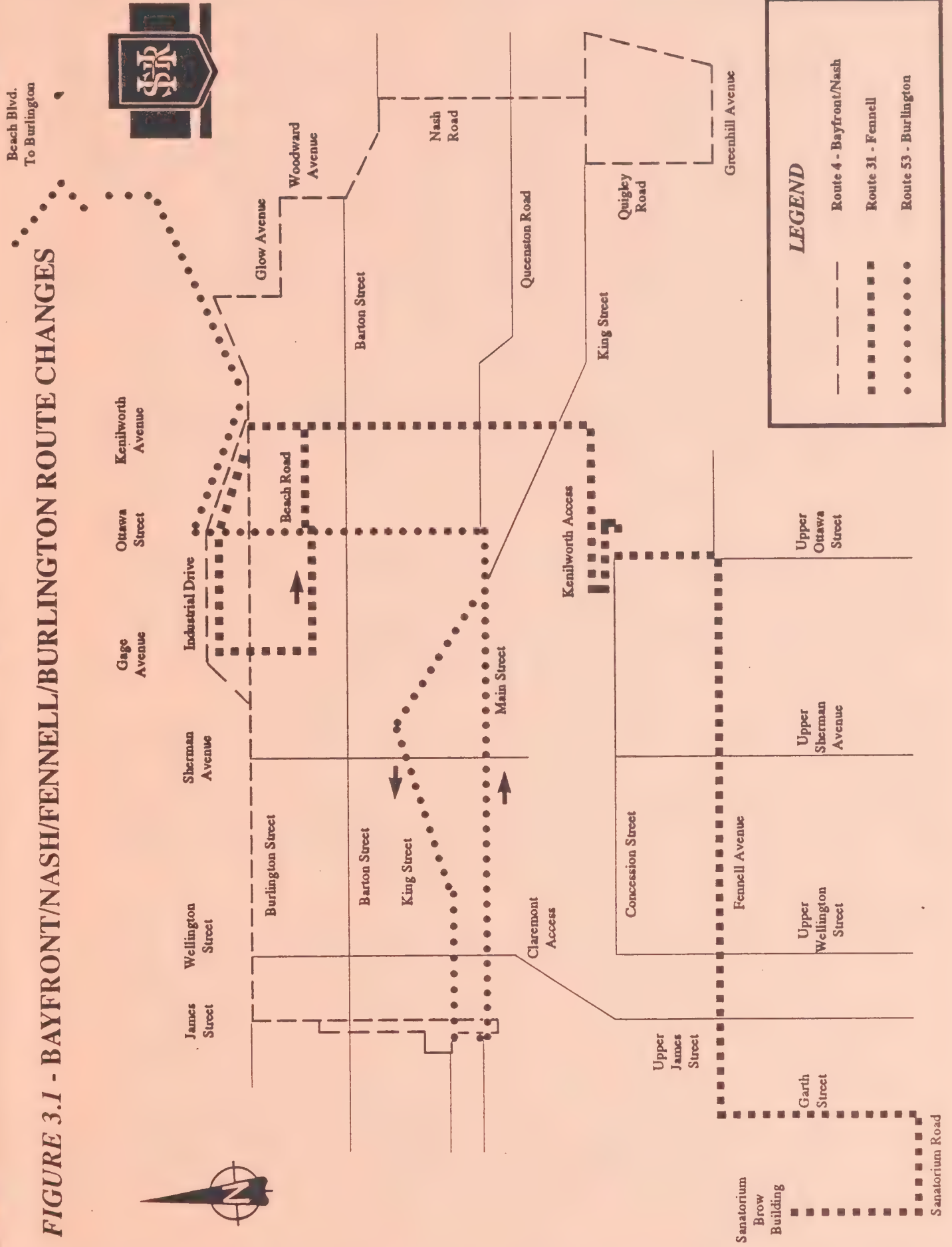
3.1.1 Bayfront/Nash/Fennell/Sherman-Ottawa/Burlington Routes

This route change option has been developed in order to address the following concerns:

- Poor revenue/cost ratios on Sherman-Ottawa and Burlington routes.
- Improving transit access for residents in the Red Hill, Vincent and Gershome neighbourhoods.
- Rationalize service frequencies and reduce bus requirements.
- Congestion at Kenilworth Circle recovery point.
- Lack of evening service in Parkview neighbourhoods.

Figure 3.1 shows the proposed bus routings for the services involved in this change. A description fo these proposed changes is provided below.

FIGURE 3.1 - BAYFRONT/NASH/FENNELL ROUTE CHANGES



Bayfront 4 and Nash 57

These two routes have been combined into one route, providing direct service to the Industrial sector from the Red Hill, Vincent and Gershome neighbourhoods, as well as downtown. Service will be provided to the residential area on Greenhill Avenue, south of King Street. Weekday service frequency will be 15 minutes in the peak periods and 20 minutes in the off peak periods.

Peak period frequency of service is reduced by 3 minutes on the Bayfront portion of the route and a reduction of 5 minutes will occur on the Nash portion of the route as a result of this change.

The section of Gage Avenue and Beach Road formerly served by the Bayfront route will be served by the Fennell route. The section of Ottawa Street between Beach Road and Main Street, formerly served by the Bayfront route will be served by the Burlington route.

The following street sections will no longer receive bus service:

- Ottawa Street, Main Street to King Street.
- Nash Road, Barton Street to Bancroft Street.
- Bancroft Street, Nash Road to Kenora Avenue.
- Kenora Avenue, Bancroft Street to Barton Street.

Fennell 31

This route will now provide all day service to the heart of the Industrial sector. Weekday service frequency in the peak periods will remain at 12 minutes. Off peak frequency will change to 20 minutes from 15 minutes.

Grenfell Street and Beach Road, between Ottawa Street and Kenilworth Avenue, will now receive one way eastbound only service. However, this area will now receive service during all time periods, instead of off peak periods only.

Gage Avenue between Burlington Street and Beach Road will receive southbound only service. Beach Road between Gage Avenue and Ottawa Street will receive eastbound only service. Peak period frequency in these areas will be improved from 24 minutes to 12 minutes.

Kenilworth Avenue north of Grenfell Street will now receive one-way northbound service.

Sherman-Ottawa 15

This weekday, peak period route will be eliminated.

Service on Ottawa Street will be provided by the Burlington route. Service on Industrial Drive and Burlington Street will be provided by the Bayfront and Fennell routes.

The following street sections will no longer receive bus service:

- Sherman Avenue, Delaware Avenue to Burlington Street.
- Birch Avenue, Burlington Street to Wilson Street.

Burlington 53

This route will be extended further west into the Industrial sector along Burlington Street and Industrial Drive to Ottawa Street, where it will travel south to Main Street. At this point the route will travel west along Main and King Streets to the Central Business District.

Weekday service frequency will remain at 20 minutes in the peak periods and will be improved to 30 minutes in the off peak periods.

Kenilworth Avenue from Burlington Street to King Street will now be served only by the Fennell route.

Customers along Ottawa Street will experience a drop in peak period frequency, from 12 minutes to 20 minutes. However, a more direct service to downtown will be provided.

Analyses Summary

Change in Annual Bus Hours	15,900
Annual Passenger Trips Impacted	122,000
Change in Annual Total Cost	\$(614,200)
Change in Annual Passenger Revenue	\$(107,300)

3.1.2 Delaware/Parkdale/Stoney Creek Local/Beeline Routes

This route change option has been developed in order to address the following concerns:

- Poor revenue/cost ratio on Stoney Creek Local route.
- Improve transit access for residents in the Gershome neighbourhood.
- Rationalize service frequencies and reduce bus requirements.
- Operational difficulties at bus recovery points.
- Improve transfer connections at Eastgate Square Terminal.

Figure 3.2 shows the proposed bus routings for the services involved in this change.

Delaware 5

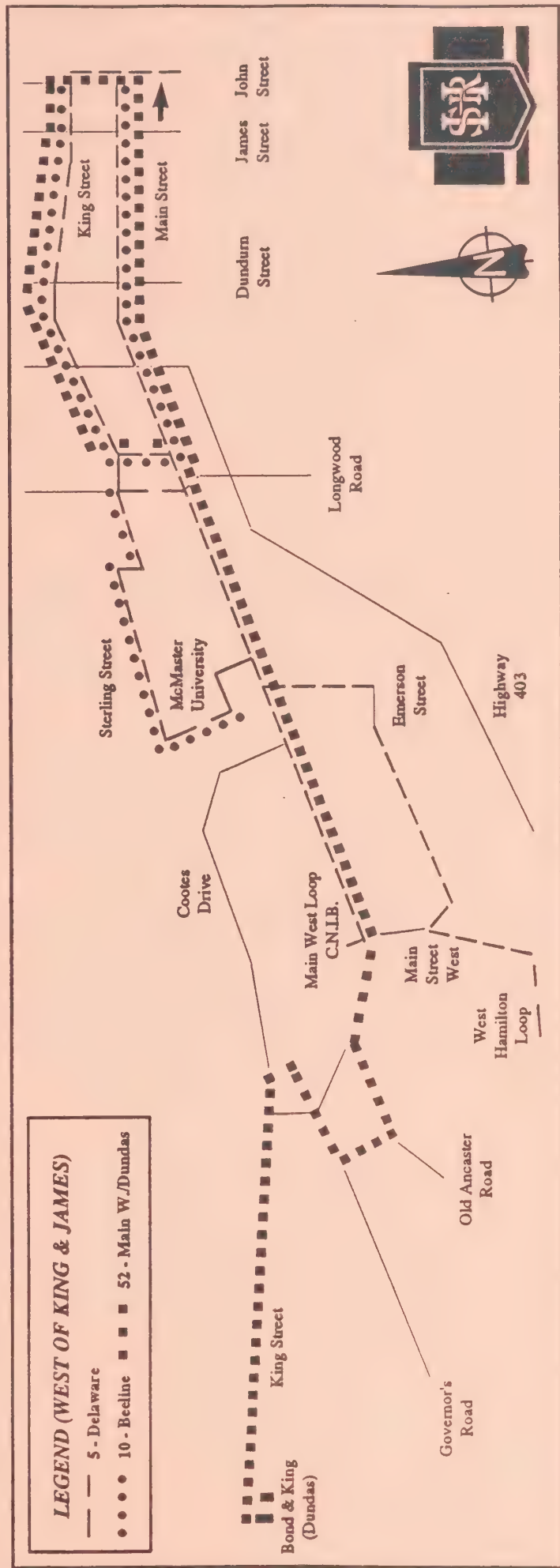
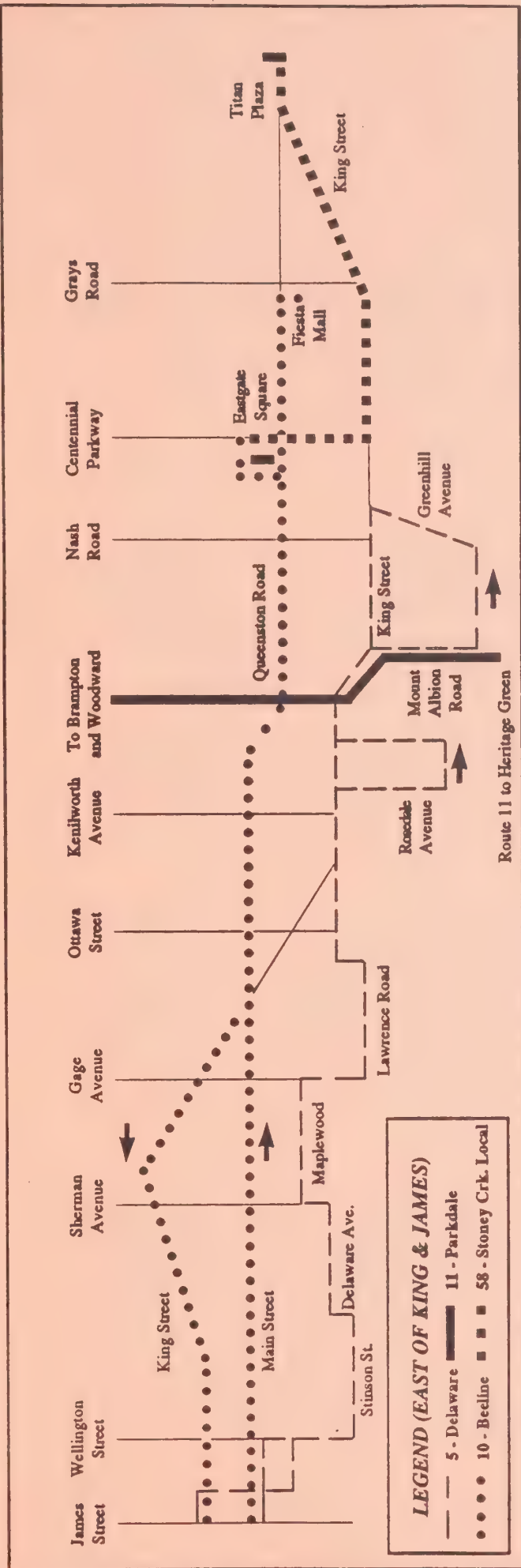
The Delaware route will be realigned to provide service along Mt. Albion Road, Greenhill Avenue and King Street in a one-way counter-clockwise loop. Residents in the Red Hill, Vincent and Gershome neighbourhoods will now receive direct service to the Central Business District (C.B.D.) every 15 minutes during weekday peak periods and every 30 minutes during off peak periods.

The section of King Street between Centennial Parkway and Jones Street, formerly serviced by the Delaware route, will continue to be serviced by the Stoney Creek Local route. Service improvements to the Stoney Creek Local and the Beeline routes will considerably reduce travel times for customers who live in Old Stoney Creek.

The following street sections will no longer receive transit service:

- King Street, Greenhill Avenue to Centennial Parkway.
- Rainbow Drive, Nash Road to Orphir Road.
- Orphir Road, Rainbow Drive to Pottruff Road.
- Pottruff Road, Orphir Road to King Street.

FIGURE 3.2 - DELAWARE/PARKDALE/STONEY CREEK LOCAL/BEELINE ROUTE CHANGES



West of the Central Business District, the section of the Delaware route currently operating as Route 52 Main West-Dundas will now operate only between the C.B.D. and Bond Street at King Street in Dundas. Previous surveys have indicated that most passengers from Dundas are destined to the Downtown. Customers travelling between Dundas and the area of Hamilton east of the C.B.D. will be required to transfer. However, service on this particular route segment will operate as an express between the C.B.D. and Main Street West at McMaster University, thereby improving loading conditions and reducing customer travel time. Service frequency in the weekday afternoon peak period will be reduced from 12 minutes to 20 minutes.

Parkdale 11

This route will continue to provide service to Heritage Green. Weekday peak period frequency will be 20 minutes and off peak frequency will be 30 minutes. On weekday and Saturday evenings and on Sundays and Holidays, the route will terminate at the Mt. Albion Road and Glencastle Drive bus loop.

The route portion operating on Greenhill Avenue between Mt. Albion Road and Summercrest Drive will be eliminated. Service on this street will be provided by the Delaware and Bayfront/Nash routes.

Stoney Creek Local 58

Weekday peak period service frequency will be increased from 40 minutes to 20 minutes. All peak period trips will be timed to meet the Beeline Express route at Eastgate Square Terminal.

Beeline Express 10

Service frequency on this weekday, rush hours only route will be increased from 12 minutes to 10 minutes. Schedules will be coordinated in order to provide transfer connections with the Stoney Creek Local and Stoney Creek Central routes. This will result in convenient transfers and shorter travel times for weekday Stoney Creek customers who are Hamilton-bound. Also, this will increase capacity in the CBD - McMaster University corridor.

Existing Beeline customers will benefit from the improved convenience of an increased service frequency.

Analyses Summary

Change in Annual Bus Hours	22,100
Annual Passenger Trips Impacted	108,600
Change in Annual Total Cost	\$(827,500)
Change in Annual Passenger Revenue	\$(95,500)

3.1.3 Garth/Upper James

This route change option has been developed in order to address the following concerns:

- Rationalize route coverage by reducing route duplication (presently Route 31 Fennell, Route 33 Sanatorium, Route 27A Upper James and Route 45 Limeridge also cover sections of Garth Street).
- Opportunity to reduce the number of buses and related costs with minimal effect on service.

Route 32 Garth will be eliminated.

Customers along Garth Street north of Mohawk Rd. will be served by Route 33 Sanatorium and Route 31 Fennell buses. Customers along Garth Street south of Mohawk Rd. will be served by Route 27A Upper James buses. The service frequency on Route 27A Upper James will also be increased during A.M. and P.M. Peak periods from 20 min. to 15 min.

Analyses Summary

Change in Annual Bus Hours	4,500
Annual Passenger Trips Impacted	70,000
Change in Annual Total Cost	-\$173,800
Change in Annual Passenger Revenue	-\$61,600

3.1.4 Limeridge

This route change option has been developed in order to address the following concerns:

- Poor revenue to cost ratio
- Route duplication
- Freeway will affect route continuity

The Route 45 Limeridge will be eliminated in 1991. Customers in the Heritage Green Area will still be serviced by Route 11 Parkdale buses. Customers along Limeridge Rd. west of Upper James will be serviced by Route 27A Upper James buses. Most affected customers are within 400 meters of the, "Upper", mountain bus routes. An option would be to implement this change after 1991 when the new freeway is in place.

Analyses Summary

Change in Annual Bus Hours	14,500
Annual Passenger Trips Impacted	201,000
Change in Annual Total Cost	-\$560,100
Change in Annual Passenger Revenue	-\$176,900

3.1.5 Aberdeen

This route change option has been developed in order to address the following concerns:

- Poor revenue to cost ratio
- Route duplication
- Reduce bus requirements

The section of Route 6 Aberdeen along Longwood Rd. from Franklin Ave. to Aberdeen Ave. will be eliminated.

Also, service frequency will be provided every 30 minutes during Weekday Midday, Weekday Early Evening, and all day Saturdays, Sundays and Holidays.

Analyses Summary

Change in Annual Bus Hours	6,900
Annual Passenger Trips Impacted	52,000
Change in Annual Total Cost	-\$266,000
Change in Annual Passenger Revenue	-\$45,800

3.2 Service Revisions

A number of service options based on schedule refinements have been developed in order to address the following concerns:

- Adjusting service frequencies to meet customer demand.
- Reducing operating costs during off peak periods.

Table 3.1 shows the existing service frequency and the proposed service frequency, by route, for the affected time period. The table also shows the number of annual customers affected and the estimated reduction in annual cost.

Early Morning Frequency Changes

On weekdays and Saturdays, the service frequency on the King, Barton and Cannon routes will be adjusted for the first hour of service. Service frequency on the Locke and York routes will be adjusted for the first hour on weekdays only.

Analyses Summary

Change in Annual Bus Hours	3,200
Annual Passenger Trips Impacted	7,750
Change in Annual Total Cost	\$(124,300)
Change in Annual Passenger Revenue	\$(6,800)

3.3 Service Standards Modifications

These service standard modification options have been developed to address the issue of providing an acceptable level of bus service during late evening time periods and on weekends and holidays, that will accomodate existing customer demand.

<u>Route</u>	<u>Time Period</u>					
	<u>Early A.M.</u>	<u>Peak A.M.</u>	<u>Off Peak</u>	<u>Peak P.M.</u>	<u>Early Evening</u>	<u>Late Evening</u>
King-Weekdays	6-10					
-Saturdays	8-10					
Barton-Weekdays	6-10					
-Saturdays	8-10					
Cannon-Weekdays	12-15					
-Saturdays	20-30					
Locke-Weekdays	15-30		20-30		20-30	
York-Weekdays	15-20		15-20			

NOTES: "6-10" means service headway will be changed from 6 minutes to 10 minutes.

Annual passenger trips impacted = 8,000

Change in annual cost = -\$124,000

TABLE 3.1 SUMMARY OF SELECTED SCHEDULE CHANGES

Table 3.2 displays a variety of varied service standard options and includes an estimate of the number of customers that would be affected and an estimate of annual cost savings.

3.3.1 Weekdays and Saturdays Last Trip at 12:30 a.m.

Existing weekday and Saturday schedules provide for trips leaving the downtown at 1:00 a.m. and, on selected routes, at 1:20 a.m. This option will result in schedule adjustments so that the last trips on the downtown routes will leave from the Gore Park area at 12:30 a.m. This option will still allow customers to enjoy the various downtown late night attractions and make their trips home on the bus.

3.3.2 Weekdays and Saturdays Last Trip at 12:00 a.m.

This service standard option is similar to 3.3.1 with the last trips leaving downtown at 12:00 a.m. instead of 12:30 a.m.

3.3.3 Sunday and Holiday Service from 8:00 a.m. to 12:00 a.m.

Existing Sunday and Holiday schedules provide bus service on 24 out of 33 routes. On some routes, service starts at 5:30 a.m. and finishes at 1:00 a.m. This option would reduce the number of service hours provided on most routes so that customers could make trips between 8:00 a.m. and 12:00 a.m. only. This option would still allow for the vast majority of church, recreational, shopping and work trips to be made by bus.

3.3.4 Sunday and Holiday Service from 8:00 a.m. to 8:00 p.m.

This service standard option is similar to Option 3.3.3 with last trips leaving the ends of the line at 8:00 p.m. instead of 12:00 a.m.

3.3.5 No Holiday Service

Currently, Sunday bus schedules are in effect on statutory holidays. Many holidays, such as Christmas Day, result in low utilization of bus routes by H.S.R. customers. This service standard option would eliminate all public transit services on statutory holidays.

<u>Service Standard Options</u>		<u>Annual Trips Affected</u>	<u>Change in Total Annual Cost</u>
i)	Weekdays & Saturdays Last Trip 12:30 a.m.	90,000	-\$260,000
ii)	Weekdays & Saturdays Last Trip 12:00 a.m.	115,800	-\$418,000
iii)	Sunday & Holiday Service from 8:00 am - 12:00 am	59,000	-\$365,000
iv)	Sunday & Holiday Service from 8:00 am - 8:00 pm	155,000	-\$766,000
v)	No Holiday Service	80,000	-\$560,000
vi)	No Sunday & Holiday Service	1,096,000	-\$2,520,000
vii)	Sunday & Holiday - 60 Minute Evening Frequency	1,000	-\$82,000
viii)	Saturday - 30 Minute Daytime Frequency - 60 Minute Evening Frequency	63,000	-\$261,000

TABLE 3.2 SUMMARY OF SERVICE STANDARD OPTIONS

3.3.6 No Sunday and Holiday Service

This option would eliminate all bus service that currently operates on Sundays and Holidays.

3.3.7 Sundays and Holiday - 60 Minute Evening Frequency

Some routes currently provide bus service during the evening at intervals less than 60 minutes. Passenger demand on these routes indicates that a 60 minute evening frequency would be sufficient. This option would provide 60 minute evening service frequency, except on those routes where a more frequent service is necessary to meet the passenger demand.

3.3.8 Saturdays - 30 Minute Daytime and 60 Minute Evening Frequency

Some routes currently provide daytime bus service at intervals less than 30 minutes. This option would provide a 30 minute service frequency during the daytime on all routes, except those where passenger demand requires a greater frequency. On Saturday evening, this option would provide a 60 minute frequency on all routes, except where demand warrants a greater frequency.

3.4 Fare Plan Options

During the past several years, H.S.R. fares have typically increased about 5 cents per ride each year which represents a rate of increase roughly equivalent to inflation. For 1991, this level of fare increase could be considered as a "maintenance budget" increase which would correspond to the projected 1991 ridership level of 25.5 million passenger trips (includes 3 million Over 70's passholder and miscellaneous trips). This compares to the estimated 1990 ridership level of 26.1 million passenger trips.

In comparing H.S.R. fare levels to fares in other similar sized transit systems, the following points were noted:

- Concessions fares (i.e. seniors, students and children) are much lower at H.S.R.
- Monthly pass prices relative to cash fares are lower at H.S.R.

A number of fare plan options have been developed for H.S.R. in 1991. These options have been developed with several specific objectives in mind, as follows:

- To contribute towards reducing the costs of H.S.R. for Regional taxpayers.
- To ensure that fare increases do not create undue hardship for transit users.
- To improve the capability of bus drivers to monitor proper payment of fares by transit passengers.

The third objective is particularly relevant for H.S.R. The current 1990 fare plan is quite complex, with a wide variety of different fare categories. For example, senior citizens have at least five different fare payment options available. As a result, it is very difficult for the operators to monitor proper payment of fares under crowded conditions. To ensure transit users pay correct fares, it is necessary to avoid having too many different fare categories. Under a "fare is fair" concept, the number of different fare categories would be significantly reduced to enable the bus operators to ensure all passengers paid the proper fare.

The different fare options which have been considered for 1991 are outlined in Table 3.3. A brief description of each option is provided below.

Category	1990 Fare Plan	OPTION 1 5 Cent Increase	OPTION 2 10 Cent Increase	OPTION 3 Typical Industry Fare Plan	OPTION 4 Fare is Fair Concept Child=Student	OPTION 5 Fare is Fair Concept Modified Increases
ADULT	1.15	1.20	1.25	1.25	1.25	1.25
- Ticket	1.15	1.20	1.25	1.25	1.25	1.25
- Monthly Pass	43.50	46.00	48.00	50.00	48.00	48.00
STUDENT	1.15	1.20	1.25	1.25	1.25	1.25
- Ticket	.75	.80	.85	.90	.75	.85
- Monthly Pass	30.50	33.00	35.00	40.00	34.00	34.50
CHILD	.50	.55	.60	1.00	1.25	1.25
- Ticket	.50	.55	.60	.90	.75	.65
SENIORS	1.15	1.20	1.25	1.00	1.25	1.25
- Ticket	.75	.80	.85	.90	.75	.85
- Monthly Pass	30.50	33.00	35.00	40.00	34.00	34.50
- Convenience Program	\$25.00 + .25	.40 tkt. 150.00 pass	.45 tkt. 165.00 pass	n/a n/a	- 150.00 pass	- 150.00 pass
- Over 70's	31.00	35.00	35.00	n/a	35.00	35.00
UNIVERSITY/COLLEGE SEMESTER PASS	147.00	157.00	162.00	175.00	155.00	155.00

TABLE 3.3 1991 FARE PLAN OPTIONS

Option 1 (5 Cent Increase)

In this option, the fare for all categories is increased an equivalent of 5 cents per ride. Monthly pass prices are increased \$2.50, representing average pass usage of 50 trips per month. The price of the annual pass for the "Over 70's" group of senior citizens has been increased \$4.00 which is much less than 5 cents per ride but this fare category is recognized as a special case.

The price of the Convenience Program tickets for Seniors would be 40 cents per ticket, representing a 5 cent increase over the equivalent 1990 cost per ride of 35 cents. The Convenience Program annual pass for Seniors would cost \$150.00 based on estimated average use of 380 trips yearly.

Option 2 (10 Cent Increase)

Under Option 2, fares in most categories are increased by 10 cents per ride. The increased cost of monthly passes is \$4.50 per month in this option to help alleviate the increased cash fares. The Convenience Program tickets and annual pass would be 45 cents and \$165.00 accordingly while the "Over 70's" annual pass price would remain at \$35.00 as in the previous case.

Option 3 (Typical Industry Fare Plan)

Option 3 is intended to be representative of the fare levels in other similar sized transit systems across the province. Fares for concession categories (i.e. senior citizens, students, children) have been raised significantly and most of the differences between these categories have been eliminated. Adults and students would pay a basic cash fare of \$1.25 while the cash fare for seniors and children would be \$1.00. Discounted fares would be available to students, seniors and children through tickets at \$0.90 each. Monthly passes would be priced at \$50.00 for adults and \$40.00 for student, seniors and children. The Convenience Program and Over 70's Program for senior citizens would be phased out under this option.

Option 4 (Fare Is Fair Concept)

Option 4 is an approach to reducing some of the numerous fare categories to improve fare monitoring (i.e. "Fare is Fair" Concept) while modifying the rate of increase for specific groups. The fare levels for children, students and seniors have been brought to the same levels (\$1.25 cash fare, \$0.75 ticket and \$34.00 monthly pass). The Annual Convenience Pass would be available to senior citizens at \$150.00 to alleviate the impact of other fare increases. Also, monthly pass prices are slightly lower under this option to reduce the impact of the increased cash fares.

Option 5 (Fare is Fair Concept)

Option 5 is an alternative approach to reducing the various different fare categories. Under this option, cash fares would be set at \$1.25 for all persons and discounts would be made available through reduced ticket prices. The ticket price for students and seniors would be set at 85 cents (compared to 75 cents in 1990). The ticket price for children would be set at 65 cents (compared to 50 cents in 1990). The annual Convenience Pass for seniors would cost \$150.00 while the "Over 70's" pass would cost \$35.00. Monthly pass prices for students and seniors would be set at \$34.50.

4.0 PROPOSED 1991 TRANSIT SERVICE PLAN

This section of the report discusses the program of service changes and fare adjustments proposed for 1991. The various types of service changes outlined previously have been assessed and rated in terms of general priorities. Based on this assessment, a number of selected changes are proposed for 1991. The fare options are evaluated and a preferred option is identified for 1991. Finally, a summary of the financial implications of the proposed plan for 1991 is presented.

4.1 1991 Service Changes

The various route changes, schedule refinements and service standards modifications have been subjectively ranked by H.S.R. staff and a selected set of changes are proposed for implementation in 1991. These suggested priorities and the proposed program have been developed for discussion purposes and are subject to refinement by the Transportation Services Committee and Regional Council.

The proposed program of service changes are summarized in Table 4.1 and a brief discussion of each change follows:

- The set of schedule refinements have been identified as top priority for 1991 since the changes all involve adjusting service headways to more closely match current ridership levels. The number of passenger trips impacted is relatively low compared to the potential cost savings.
- Changes to service standards for Sunday and Holiday services are proposed based on the low level of ridership and the relatively high standards currently provided. The major impact on transit users will be the reduction in hours of service from 6:00 a.m. - 1:00 a.m. to 8:00 a.m. - midnight.
- Changes to the Bayfront/Nash and related routes are proposed for 1991 in view of the significant cost savings which can be achieved through this route rationalization. This change will impact about 122,000 trips and some specific areas (eg. Sherman Avenue, Birch Avenue) will lose their local bus service. However, alternative bus services are available within reasonable walking distances in most cases and these changes will reduce congestion at the Kenilworth traffic circle, eliminate the need for transfers between Nash and Bayfront routes and provide direct downtown service from the Beach strip.

<u>Service Change Options</u>	<u>Number of Passenger Trips Impacted</u>	<u>Change in Annual Costs (1991 Dollars)</u>
A. <u>CHANGES PROPOSED FOR 1991</u>		
• Schedule Refinements	7,800	-\$124,000
• Sunday & Holiday Frequency Service Standard Changed to 30 and 60 Minutes	1,000	-\$82,000
• Sunday & Holiday Hours Service Standard Changed to 8:00 a.m. to Midnight	94,000	-\$365,000
• Bayfront/Nash/Fennell/Sherman-Ottawa/ Burlington Route Changes	122,000	-\$614,000
• Delaware/Parkdale/Stoney Creek Local/ Beeline Route Changes	109,000	-\$827,000
• Garth/Upper James Route Changes	70,000	-\$174,000
• Aberdeen Route Change	<u>52,000</u>	<u>-\$266,000</u>
Total (for proposed Service Changes)	<u>456,000</u>	<u>-\$2,452,000</u>
B. <u>POTENTIAL CHANGES NOT PROPOSED FOR 1991</u>		
• Saturday Frequency Service Standard Changed to 30 and 60 Minutes	63,000	-\$261,000
• Weekdays & Saturday Hours Service Standard Changed to 12:30 a.m. Last Trip	90,000	-\$260,000
• Sunday & Holiday Hours Service Standard Changed to 8:00 a.m. to 8:00 p.m.	155,000	-\$766,000
• Limeridge Route Change	201,000	-\$560,000
• Sunday & Holiday Service Standard Changed to No Holiday Service	80,000	-\$560,000
• Weekdays & Saturday Hours Service Standard Changed to Midnight Last Trip	116,000	-\$418,000
• Sunday & Holiday Service Standard Changed to No Sunday & Holiday Service	1,096,000	-\$2,520,000

TABLE 4.1 PRIORITIES FOR SERVICE CHANGES

- The changes to the Delaware/Parkdale/Stoney Creek Local/Beeline routes are proposed for 1991 in view of the significant cost saving potential as compared to the number of transit trips impacted. The proposed changes will greatly improve services in the Red Hill, Vincent and Gershome neighbourhoods and will also simplify the current Delaware route and improve Stoney Creek route connections to the Beeline. However, some localized areas will lose their direct connections to downtown and approximately 109,000 trips will be impacted by the combined changes.
- The changes to the Garth/Upper James routes will result in a significant cost saving by eliminating the Garth route. Users of this route have alternative routes within reasonable walking distance in most cases.
- The change in the Aberdeen route is proposed in view of the significant cost saving as compared to the number of trips impacted. Ridership is relatively low on this route and has been declining, resulting in the current poor performance.

The remaining service options investigated are not recommended for implementation in 1991. Options involving further modifications to service standards are not proposed at this time due to the further impacts on ridership and the need to assess the actual effects of implementing the changes proposed above. The Limeridge route change is not recommended for 1991 due to the number of trips impacted. Also, other route changes requiring further planning investigations may be required in this area beyond 1991 and the proposed Limeridge changes would be premature. The full elimination of Sunday and Holiday service is not recommended due to the significant number of trips impacted and the general hardship this would create for persons reliant on public transit service.

4.2 1991 Fare Structure Modifications

An analysis of the five fare plan options outlined previously has been carried out to determine the impact on ridership and transit revenues. The results of this analysis are summarized in Table 4.2. A brief assessment of each option is as follows:

	Estimated 1991 Revenue (millions)	Estimated 1991 Ridership (millions)	Average Revenue per Ride in 1991	Change in Revenue vs. 1990	Change in Ridership vs. 1990
Option 1 (5 cent increase)	\$22.50	25.54	\$0.881	+2.74%	-2.28%
Option 2 (10 cent increase)	\$23.30	25.31	\$0.921	+6.43%	-3.17%
Option 3 (Typical Industry Plan)	\$25.25	24.75	\$1.02	+15.3%	-5.30%
Option 4 (Fare is Fair)	\$22.99	25.10	\$0.916	+\$5.02%	-3.95%
Option 5 (Modified Fare is Fair)	\$23.12	25.03	\$0.924	+5.57%	-4.25%

- NOTES: - 1990 Passenger Revenue estimated to be \$21.90 million.
- 1990 Ridership (including Over 70's and misc.) estimated to be 26.14 million trips.

TABLE 4.2 SUMMARY COMPARISON OF FARE PLAN OPTIONS

- Option 1 (5 cent increase) can be considered a "default" option which is generally consistent with past trends. This plan would have the least impact on H.S.R. ridership but the increase in passenger revenues is only 2.7% compared to 1990. This is clearly less than inflation and would not contribute to improved financial performance for the H.S.R. Also, this plan does not reduce the numerous fare categories currently in place.
- Option 2 (10 cent increase) would increase transit revenues at a rate higher than inflation and would contribute to improved financial performance. The increased fares are generally spread over all groups so that it could be perceived as being more equitable than other options. However, this option does not reduce the number of fare categories which means that payment of fares would not be easier to monitor.
- Option 3 (Typical Industry Plan) is representative of the fare structures in other similar-sized Ontario cities. It would enable a significant improvement in financial performance to be achieved compared to the other options. However, it would also mean significant increases in the fares for senior citizens and children as well as for monthly pass users. Under this option the Over 70's pass would no longer be available which would likely meet with considerable resistance.
- Option 4 (Fare is Fair Concept) is a plan which would greatly reduce the discrepancies between the different concession fares and would make monitoring of fare payment much easier than at present. The revenues would increase about 5.0% under this option which is roughly equivalent to the current rate of inflation. The group impacted most under this option would be children who are also a relatively small segment (about 4% in 1990) of H.S.R. ridership. On the other hand, students and seniors would benefit from constant ticket prices under this option.

- Option 5 (Modified Fare is Fare) is a plan which introduces some reduction in fare categories but distributes the increased fares over all groups. This option would generate somewhat higher revenues than Option 4 and there would be a greater impact on ridership.

In evaluating these options, it has been concluded that Option 4 (fare is fair) is the preferred 1991 fare plan for H.S.R. for the following reasons:

- This plan would provide an increase in revenue which would keep pace with current rates of inflation.
- By reducing the number of different fare categories, H.S.R.'s capability to monitor proper payment of fares will be greatly increased.
- The category with the most significant increase (i.e. children) are the smallest segment of H.S.R. riders.
- The proposed fare levels for all categories of users are very reasonable when compared to other similar sized cities.

4.3 Financial Implications of the Plan

A major objective of the 1991 Transit Service Plan is to improve the financial performance of the H.S.R. This directly affects the levy to municipal taxpayers for transit services. For 1990, the budget levy to the City of Hamilton is \$15.76 million. The implications of the proposed service changes on the transit levy are summarized as follows:

- Annual reduction in H.S.R. costs = \$2.45 million
- Annual reduction in MTO subsidy = \$0.47 million
- Estimated reduction in passenger revenue = \$0.40 million
- Net reduction in Municipal Transit Levy (Annualized) = \$1.58 million

The full saving of \$1.58 million will be difficult to achieve in 1991. Due to requirements in the driver's collective agreement, service changes can only be introduced at specific points during the year. Therefore, it is likely that the actual reduction realized in 1991 would be about 50% of the annualized amount of \$1.58 million. The full amount of these savings would be realized in future years.

The proposed 1991 fare plan (i.e. Option 4) would generate additional revenues, as compared to the maintenance budget, which would directly reduce the municipal transit levy. A reduction in the levy of \$0.46 million is estimated and, if the fare plan were implemented in January 1991, the full amount of this saving would be realized in 1991.

APPENDIX A

ROUTE RIDERSHIP DATA

1990							
ANNUAL RIDERSHIP ON WEEKDAYS							
Route Name	Forecast Rev. Pass.	Early Morning	A.M. Peak	Mid Day	P.M. Peak	Evening	Total
1 - KING	3,398,212	70,563	501,277	1,105,857	640,709	420,553	2,738,959
2 - BARTON	3,450,923	84,799	503,586	1,136,864	691,617	366,304	2,783,169
3 - CANNON	570,134	17,133	87,420	189,117	140,794	52,716	487,180
4 - BAYFRONT	694,032	24,335	161,757	184,900	183,230	68,950	623,171
5 - DELAWARE	3,248,061	41,441	555,276	1,110,751	631,584	348,069	2,687,121
6 - ABERDEEN	262,375	3,554	34,497	98,682	54,150	14,635	205,518
7 - LOCKE	243,123	3,053	26,252	76,313	65,324	27,473	198,413
8 - YORK	242,181	1,384	39,726	89,137	54,550	12,847	197,644
9 - ROCK GARDENS	4,283						
10 - BEELINE	488,837		194,068	100,700	194,557		489,326
11 - PARKDALE	605,512	13,058	152,177	178,043	131,586	53,990	528,854
15 - SHERMAN/OTTAWA	52,400	9,715	18,840	10,598	13,247		52,400
16 - ANCASTER	23,841		6,121	2,900	14,820		23,841
21 - UP. KENILWORTH	563,513	8,675	105,998	201,965	127,143	43,375	487,157
22 - UP. OTTAWA	693,860	15,124	136,986	198,644	184,102	63,112	597,969
23 - UP. GAGE	929,182	12,302	153,921	326,444	207,928	91,812	792,406
24 - UP. SHERMAN	727,266	7,280	133,665	230,346	195,401	63,192	629,885
25 - UP. WENT./WELL	1,328,561	16,275	199,636	435,349	358,315	130,198	1,139,772
27 - UP. JAMES	1,062,394	14,231	173,188	371,462	211,782	117,710	888,374
31 - FENNEL	938,570	23,555	164,021	326,745	210,266	96,381	820,967
32 - GARIB	230,978	5,279	51,145	82,822	87,112	4,620	230,978
33 - SANATORIUM	402,734	4,578	81,054	119,023	91,556	36,084	332,296
34 - UP. PARADISE	471,338	6,844	95,818	127,550	130,661	53,198	414,070
35 - COLLEGE	213,107	653	54,863	74,131	60,089	11,756	201,493
41 - MOHAWK	512,783	1,737	100,155	182,942	124,470	44,867	454,172
45 - LIMERIDGE	200,750	777	37,282	58,771	53,593	25,114	175,536
51 - UNIVERSITY	427,297		69,574	234,582	123,140		427,297
52 - DUNDAS LOCAL	18,858		10,215		8,643		18,858
53 - BURLINGTON	189,055	4,815	39,026	64,874	51,190	14,952	174,857
55 - ST. CRK. CENT.	484,179	7,297	89,996	162,966	116,752	50,471	427,482
56 - CONFED. PK.	15,213						
57 - NASH	382,655	6,711	106,759	129,026	65,275	42,703	350,474
58 - ST. CRK. LOCAL FRANCES AVENUE	79,733 966		12,350	27,225	18,244	8,982	66,800
TOTAL	23,156,906						

TABLE A.1 WEEKDAY RIDERSHIP

1990 FORECAST ANNUAL RIDERSHIP ON SATURDAYS							
Route Name	Forecast Rev. Pass.	Early Morning	A.M. Peak	Mid Day	P.M. Peak	Evening	Total
1 - KING	3,398,212	1,592	31,110	219,170	99,351	77,290	428,515
2 - BARTON	3,450,923	3,938	32,757	215,471	100,419	80,505	433,091
3 - CANNON	570,134	589	3,264	33,956	16,774	11,153	65,736
4 - BAYFRONT	694,032	787	4,971	23,182	10,533	7,235	46,708
5 - DELAWARE	3,248,061	3,495	35,769	168,609	75,650	80,584	364,108
6 - ABERDEEN	262,375		3,619	28,864	7,539	4,136	44,158
7 - LOCKE	243,123	42	2,355	17,535	7,569	4,373	31,873
8 - YORK	242,181	42	2,346	17,467	7,540	4,356	31,750
9 - ROCK GARDENS	4,283						
10 - BEELINE	488,837						
11 - PARKDALE	605,512	1,193	4,459	34,844	10,578	3,059	54,133
15 - SHERMAN/OTTAWA	52,400						
16 - ANCASIER	23,841						
21 - UP. KENILWORTH	563,513	168	4,473	25,218	12,581	8,220	50,660
22 - UP. OTTAWA	693,860	180	4,744	28,641	16,212	14,891	64,668
23 - UP. GAGE	929,182	1,177	6,564	49,044	21,921	12,818	91,524
24 - UP. SHERMAN	727,266	1,202	6,428	36,468	15,380	8,231	67,708
25 - UP. WENT./WELL.	1,328,561	1,008	11,085	80,112	39,412	19,706	151,323
27 - UP. JAMES	1,062,394	1,892	11,650	57,854	29,723	25,093	126,212
31 - FENNEL	938,570	1,471	8,425	42,483	19,213	12,972	84,565
32 - GARH	230,978						
33 - SANATORIUM	402,734	56	3,056	19,727	12,837	6,168	41,844
34 - UP. PARADISE	471,338		3,080	23,744	10,845	8,663	46,333
35 - COLLEGE	213,107		1,216	3,647	1,756	1,351	7,970
41 - MOHAWK	512,783		3,224	21,133	9,671	6,328	40,356
45 - LIMERIDGE	200,750	107	2,350	15,385	7,105	267	25,214
51 - UNIVERSITY	427,297						
52 - DUNDAS LOCAL	18,858						
53 - BURLINGTON	189,055	314	1,362	3,091	2,462	786	8,016
55 - ST. CRK. CENT.	484,179	942	5,086	26,622	14,064	9,983	56,697
56 - CONFED. PK.	15,213						
57 - NASH	382,655	252	1,574	9,696	6,422	4,785	22,730
58 - ST. CRK. LOCAL	79,733		805	6,668	2,989	2,472	12,933
FRANCES AVENUE	966						
TOTAL	23,156,906						

TABLE A.2 SATURDAY RIDERSHIP

1990 FORECAST ANNUAL RIDERSHIP ON SUNDAYS							
Route Name	Forecast Rev. Pass.	Early Morning	A.M. Peak	Mid Day	P.M. Peak	Evening	Total
1 - KING	3,398,212	2,686	20,042	103,876	47,263	56,871	230,739
2 - BARTON	3,450,923	2,732	20,383	105,643	48,067	57,838	234,663
3 - CANNON	570,134		960	10,395	5,864		17,218
4 - BAYFRONT	694,032	520	2,947	11,036	5,778	3,871	24,152
5 - DELAWARE	3,248,061	1,302	14,180	81,463	53,199	46,688	196,832
6 - ABERDEEN	262,375	50	1,260	5,745	2,822	2,822	12,699
7 - LOCKE	243,123		785	5,940	3,044	3,044	12,813
8 - YORK	242,181		782	5,917	3,032	3,032	12,763
9 - ROCK GARDENS	4,283						
10 - BEELINE	488,837						
11 - PARKDALE	605,512	244	1,887	9,254	4,992	6,149	22,525
15 - SHERMAN/OTTAWA	52,400						
16 - ANCASIER	23,841						
21 - UP. KENILWORTH	563,513	66	1,901	11,340	7,604	4,785	25,696
22 - UP. OTTAWA	693,860	141	2,321	13,642	7,595	7,595	31,293
23 - UP. GAGE	929,182	799	3,269	19,393	12,784	9,007	45,251
24 - UP. SHERMAN	727,266	282	1,833	13,815	7,119	6,696	29,745
25 - UP. WENT./WELL	1,328,561	459	3,609	14,172	10,301	8,792	37,333
27 - UP. JAMES	1,062,394	526	3,740	19,111	12,156	12,273	47,808
31 - FENNELL	938,570		2,510	16,210	7,321	6,903	32,944
32 - GARTH	230,978						
33 - SANATORIUM	402,734		2,146	11,448	6,699	8,260	28,554
34 - UP. PARADISE	471,338			5,807	5,128		10,935
35 - COLLEGE	213,107			2,377	1,268		3,644
41 - MOHAWK	512,783		1,469	8,183	4,406	4,197	18,255
45 - LIMERIDGE	200,750						
51 - UNIVERSITY	427,297						
52 - DUNDAS LOCAL	18,858						
53 - BURLINGTON	189,055	182	485	2,909	1,212	1,394	6,182
55 - ST. CRK. CENT.	484,179						
56 - CONFED. PK.	15,213						
57 - NASH	382,655	102	792	3,883	2,095	2,580	9,452
58 - ST. CRK. LOCAL FRANCES AVENUE	79,733 966						
TOTAL	23,156,906						

TABLE A.3 SUNDAY RIDERSHIP

PASSENGER BOARDINGS PER REVENUE HOUR - WEEKDAY SERVICE

	September 1989 Board					January 1990 Board					March 1990 Board				
Route Name	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.
1 - KING	37	77	80	95	55	40	68	85	100	61	36	64	84	101	62
2 - BARTON	30	51	61	70	33	44	57	70	78	38	47	56	64	75	47
3 - CANNON	19	36	45	49	20	25	48	46	64	40	19	44	50	57	33
4 - BAYFRONT	51	45	31	48	19	47	51	40	55	24	40	45	39	46	22
5 - DELAWARE	13	44	54	55	31	24	53	53	56	35	23	48	52	54	37
6 - ABERDEEN	17	23	42	28	10	18	44	39	39	14	23	44	52	45	15
7 - LOCKE	15	32	53	64	27	27	35	54	66	24	27	43	75	76	28
8 - YORK	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10 - BEELINE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11 - PARKDALE	26	35	32	32	15	32	43	50	51	22	30	37	39	45	22
15 - SHERMAN/OTTAWA	33	10	12	9		33	14	24	22		24	15	20	18	
16 - ANCASTER		9		15			9		16			13		10	
21 - UPPER KENNEDY	16	35	46	36	17	16	37	44	32	19	14	28	37	28	12
22 - UPPER OTTAWA	26	39	34	48	16	21	46	33	43	23	14	28	24	35	16
23 - UPPER GAGE	13	42	51	53	23	27	56	62	67	31	16	38	48	51	18
24 - UPPER SHERMAN	12	41	49	55	19	21	40	52	55	21	18	27	37	40	15
25 - UP. WENT./WELL	15	38	57	66	24	16	45	59	68	22	7	28	46	48	18
27 - UPPER JAMES	9	44	59	51	25	9	40	55	59	28	7	26	44	39	21
31 - FENNEL	27	36	43	44	16	32	36	41	43	17	32	32	35	33	14
32 - GARTH	8	25	27	44		6	30	38	52		5	21	17	30	
33 - SANCTUARY	8	33	40	34	13	8	34	45	39	14	5	24	34	26	9
34 - UPPER PARADISE	11	34	34	46	21	15	39	28	39	18	8	29	25	40	15
35 - COLLEGE		42	45	36	9		46	49	38	11		22	21	21	11
41 - MOHAWK		38	42	47	11		33	38	44	11		26	36	36	14
45 - LIMERIDGE	3	20	15	29	6	3	13	16	21	8		9	11	18	10
51 - UNIVERSITY		32	44	50			19	57	89			36	44	54	
52 - DUNDAS LOCAL		13		11			8		20			21		12	
53 - BURLINGTON	9	19	21	25	11	18	27	29	30	20	11	28	26	30	19
55 - STONEY CREEK CENT.	12	49	41	54	15	30	76	47	57	18	27	54	43	62	20
57 - NASH	22	58	42	26	17	23	52	47	43	22	27	42	78	53	26
58 - STONEY CREEK LOC.		44	32	32	10		71	51	72	25		66	54	48	18

NOTE: * - APC data is not available for routes 8 - YORK and 10 - BEELINE due to software problems.
A blank field indicates that no service is scheduled for that time period on the selected route.

TABLE A.4 WEEKDAY BOARDINGS PER REVENUE HOUR

PASSENGER BOARDINGS PER REVENUE HOUR - SATURDAY SERVICE

	September 1989 Board					January 1990 Board					March 1990 Board				
Route Name	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.
1 - KING	8	35	100	91	68	+	+	+	+	+	+	68	107	75	60
2 - BARTON	9	24	75	71	51	15	22	82	56	66	71	31	83	73	50
3 - CANNON	7	11	53	54	22	+	+	+	+	+	+	25	50	55	26
4 - BAYFRONT	8	8	19	17	10	10	16	31	37	23	+	12	34	28	23
5 - DELAWARE	10	23	50	46	36	9	23	50	50	30	10	26	50	45	29
6 - ABERDEEN		22	68	36	12		+	+	+	+		6	65	41	13
7 - LOCKE	4	21	59	49	18	+	21	50	47	13	+	35	75	73	26
8 - YORK	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11 - PARKDALE	13	9	38	30	7	17	12	24	26	6	+	+	+	+	+
21 - UPPER KENILWORTH	5	17	45	45	16	+	20	29	29	16	7	29	51	39	33
22 - UPPER OTTAWA	5	15	40	42	20	+	+	+	+	+	+	29	53	56	34
23 - UPPER GAGE	10	15	47	46	20	11	26	72	91	45	21	39	67	60	37
24 - UPPER SHERMAN	15	19	42	38	16	16	21	45	46	+	6	25	42	42	21
25 - UP. WENT./WELL	7	18	58	62	17	6	18	72	52	+	19	34	84	80	28
27 - UPPER JAMES	12	22	50	50	23	6	23	68	65	31	10	32	63	72	25
31 - FENNEL	12	14	31	32	12	+	20	44	38	16	35	21	39	37	19
33 - SANATORIUM	4	12	34	33	10	+	+	+	+	+	+	+	+	+	+
34 - UPPER PARADISE		13	40	42	15		24	52	42	13		32	58	60	27
35 - COLLEGE		11	15	14	6		16	19	20	6		10	22	23	8
41 - MOHAWK		8	25	22	8		23	46	50	12		16	47	41	9
45 - LIMERIDGE	3	6	18	19	14	3	5	29	36	16	10	7	19	30	7
53 - BURLINGTON	4	5	6	11	2	+	+	+	+	+	6	12	22	23	+
55 - STONEY CREEK CENT.	5	14	32	36	15	8	21	44	61	19	5	19	36	20	20
57 - NASH	8	7	19	25	10	+	14	52	58	22	+	11	39	62	12
58 - STONEY CREEK LOC.		15	26	21	12		6	17	14	11		8	23	23	11

NOTE: * - APC data was not available for route 8 - YORK due to a software problem.

A blank field indicates that no service is scheduled for that time period on the selected route.

+ - Indicates no data for the selected time period was successfully captured.

TABLE A.5 SATURDAY BOARDINGS PER REVENUE HOUR

PASSENGER BOARDINGS PER REVENUE HOUR - SUNDAY SERVICE

	September 1989 Board					January 1990 Board					March 1990 Board				
Route Name	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.	Ear. Morn.	A.M. Peak	Mid Day	P.M. Peak	Eve.
1 - KING	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2 - BARTON	12	35	70	65	53	48	54	92	89	67	27	48	67	67	54
3 - CANNON		11	23	27			10	30	28			33	26	40	
4 - BAYFRONT	10	4	8	8	4	+	6	14	13	17	18	9	18	16	24
5 - DELAWARE	5	15	42	50	28	4	17	44	35	25	6	20	40	40	31
6 - ABERDEEN	2	6	15	15	8	+	+	+	+	+	2	8	17	11	6
7 - LOCKE		9	18	19	11		10	28	27	13		12	22	16	14
8 - YORK	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11 - PARKDALE	5	9	20	22	12	+	5	19	32	12	7	10	25	27	18
21 - UPPER KENILWORTH	2	7	20	26	8	+	+	+	+	+	+	14	21	30	13
22 - UPPER OTTAWA	3	6	19	21	10	2	12	33	29	15	7	12	32	27	15
23 - UPPER GAGE	7	9	26	35	14	13	32	39	49	29	8	22	43	55	25
24 - UPPER SHERMAN	5	7	22	24	13	3	6	17	18	8	6	13	31	33	18
25 - UP. WENT./WELL.	5	8	16	21	8	3	8	21	32	13	9	12	25	29	17
27 - UPPER JAMES	5	14	32	41	20	9	17	40	57	33	8	21	33	37	28
31 - FENNEL		6	21	18	8		8	23	24	11		7	23	30	14
33 - SANATORIUM	2	7	19	22	13	+	6	14	12	6	12	13	28	28	17
34 - UPPER PARADISE			20	38				33	33				21	28	
35 - COLLEGE			9	11				+	+	+			6	10	
41 - MOHAWK		5	15	15	7		+	+	+	+		10	23	18	9
53 - BURLINGTON	2	4	10	8	4	+	+	+	+	+	+	3	15	29	16
57 - NASH	*	*	*	*	*	*	*	*	*	*	+	+	+	+	+

NOTE: * - APC data is not available for routes 1 - KING, 8 - YORK, 57 - NASH due to software problems.
A blank field indicates that no service is scheduled for that time period on the selected route.
+ - Indicates no APC data was successfully captured during the Time Period.

TABLE A.6 SUNDAY BOARDINGS PER REVENUE HOUR

APPENDIX B

CUSTOMER OPINION SURVEY

1990 PUBLIC OPINION SURVEY QUESTIONNAIRE

Hi ! My name is _____ and I am conducting a survey for the Hamilton Street Railway Co. about their transit service. Could you please spare a few minutes to answer a couple of questions. Thank you !

1. How many one way trips, on average, do you take each week on the bus? _____ trips

2. What routes do you use regularly? Please indicate up to three. _____

3. Please indicate how important it is to have the following areas improved. Please use definately needs improvement, needs some improvement and doesn't need improvement as the scale.

AREAS	NEEDS IMPROVEMENT	SOME IMPROVEMENT	NO IMPROVEMENT
Number of shelters	[]	[]	[]
Number of benches	[]	[]	[]
Number of litter containers	[]	[]	[]
Availability of schedules	[]	[]	[]
Availability of tickets/passes	[]	[]	[]
Weekday service	[]	[]	[]
Weeknight service	[]	[]	[]
Weekend service	[]	[]	[]
Existing route structures	[]	[]	[]
Route extension or new routes	[]	[]	[]
Cleanliness of buses	[]	[]	[]
Appearance of operators	[]	[]	[]
Courtesy of operators	[]	[]	[]
Operators adhering to schedules	[]	[]	[]
Other _____	[]	[]	[]
Other _____	[]	[]	[]

4. Which three areas do you believe need the most attention? (Repeat choices above if needed)

5. Is the fare charged an important factor when deciding to use the bus?

- Very important []
Somewhat important []
Not important []

6. What is the main reason you take the bus?

Thank you very much for your time! Do you have any comments about the questionnaire?

Once again, thank you and have a nice day!

1990 PUBLIC OPINION SURVEY RESULTS

SAMPLE:	SEX	NUMBER	PERCENTAGE
	Male	132	33.33%
	Female	268	67.00%
	Total	400	100.00%

AREA	NUMBER	PERCENTAGE
Ancaster	19	4.75%
Stoney Creek	45	11.25%
Dundas	23	5.75%
Mountain	156	39.00%
Downtown E	52	13.00%
Downtown C	53	13.25%
Downtown W	52	13.00%
Total	400	100.00%

1. Number of one way trips taken each week;

# OF TRIPS	# OF RESPONDENTS	% OF RESPONDENTS	# OF TRIPS	# OF RESPONDENTS	% OF RESPONDENTS
0	0	0.00%	9	5	1.25%
1	0	0.00%	10	56	14.00%
2	21	5.25%	11	1	0.25%
3	18	4.50%	12	26	6.50%
4	60	15.00%	13	0	0.00%
5	43	10.75%	14	0	0.00%
6	92	23.00%	15	2	0.50%
7	6	1.50%	Total	400	100.00%
8	70	17.50%			

2. Regular routes used;

ROUTE NUMBER	# OF RESPONDENTS	% OF RESPONDENTS	ROUTE NUMBER	# OF RESPONDENTS	% OF RESPONDENTS
1	69	8.33%	25	36	4.35%
2	51	6.16%	27	30	3.62%
3	10	1.21%	31	38	4.59%
4	25	3.02%	32	23	2.78%
5	138	16.67%	33	29	3.50%
6	16	1.93%	34	32	3.86%
7	14	1.69%	35	11	1.33%
8	10	1.21%	41	24	2.90%
9	0	0.00%	45	23	2.78%
10	22	2.66%	51	7	0.85%
11	17	2.05%	52	7	0.85%
15	6	0.73%	53	15	1.81%
16	22	2.66%	55	15	1.81%
21	18	2.17%	56	28	3.38%
22	21	2.54%	57	13	2.57%
23	28	3.38%	58	7	0.85%
24	23	2.78%	Total	828	100.00%

3. The areas which need the most improvement;

AREA	DEFINITELY NEEDS IMPROVEMENT	NEEDS SOME IMPROVEMENT	DOES NOT NEED IMPROVEMENT
Number of shelters	39(9.75%)	205(51.25%)	156(39.00%)
Number of benches	61(15.25%)	203(50.75%)	136(34.00%)
Number of litter containers	86(21.50%)	278(69.50%)	36(9.00%)
Availability of schedules	2(.50%)	71(17.75%)	327(81.75%)
Availability of tickets/passes	57(14.25%)	181(45.25%)	162(40.50%)
Weekday service	7(1.75%)	72(18.00%)	321(80.25%)
Weeknight service	19(4.75%)	144(36.00%)	237(59.25%)
Weekend service	33(8.25%)	154(38.50%)	213(53.25%)
Existing routes	6(1.50%)	34(8.52%)	359(89.97%)*
Route extensions/new routes	18(4.50%)	38(9.50%)	344(86.00%)
Cleanliness of buses	6(1.50%)	349(87.25%)	45(11.25%)
Appearance of Operators	1(.25%)	176(44.00%)	223(55.75%)
Courtesy of Operators	4(1.00%)	117(29.25%)	274(69.75%)*
Operators adhering to schedules	11(2.76%)	180(45.11%)	208(52.13%)*
Overall	350(6.26%)	2202(39.37%)	3041(54.37%)

* denotes less than 400 complete answers

4. The results are not used as the question was not fully understood.

5. How important are fares?

RESPONSE	# OF RESPONSES	% OF RESPONSES
Fares are very important	0	0.00%
Fares are somewhat important	42	10.55%
Fares are not important	356	89.45%

6. Reasons for taking the bus;

REASONS	# OF RESPONSES	% OF RESPONSES
Do not drive	121	30.25%
Car not always available	108	27.00%
Do not own a car	106	26.50%
Too expensive to use car	9	2.25%
Parking is expensive/hassle	33	8.25%
Too young to drive	1	.25%
Prefer not to drive at times	19	4.75%
Help the environment	2	.50%
Weather dependent	1	.25%
Total	400	100.00%



MADE IN
CHINA
81528
DUI-FAH

HAMILTON PUBLIC LIBRARY



3 2022 21292585 9

DUO-JANG
51258
MADE IN U.S.A.